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A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

VOL. CXXI.—No. 4110. NOVEMBER 11, 1921.

THE PRESIDENT'S ADDRESS.

THOSE who know Mr. Paul Waterhouse, M.A., the President of the Royal Institute of British Architects, expected his first presidential address to be one of distinction and charm, and now that the address has been delivered it can be said with confidence they will not be disappointed. In his admirable remarks, which we print on another page, he dealt with an issue of primary importance not only to architects but to the educated public, in his defence of architects against the criticism of "the whole world of intelligent opinion—to say nothing of the world of unintelligent opinion," which is "perpetually on the watch" to offer warning and advice. For the most part, he says, we pay but little heed to the advice or the warning: "we go on our way, we take our own course, we have our own courage, and if attacked we sometimes—but rarely—attempt a reply. What are the lines of our defence and what is our bulwark of justification? This is a serious question. It deserves a serious answer. Can we give it?"

We are not surprised that in his opening address as the newly-elected President of an Institute representing all types of practising architects—including, happily, the ablest exponents of the art of architecture—Mr. Waterhouse should have essayed to answer what he admits is a difficult question, and, because we are aware that the world of intelligent opinion is concerned with the art of architecture, we think it would be better if our courage and confidence brought us more frequently into the open to do battle with our critics. The spirit of inquiry is to be welcomed, for is it not the beginning of understanding? And if we are to secure at least the same measure of interest in and appreciation for architecture that the public show for the other arts, we cannot be content to rely upon our courage and confidence unless they enbolden us to explain our convictions, and show on what ground our defence is founded.

Mr. Waterhouse confesses that the answer is difficult, but there can be little doubt that to the student of architecture his reply will be understood and endorsed, though it will, we fear, still leave the intelligent layman anxious to offer his advice and warning. To-day history or archæology, says the President, or for that matter the simple study of still standing stones, take the place of the traditions of the mediæval or pre-mediæval workshop, and if we are accused of antiquarianism in our study, or of archaism in our practice, let us answer boldly that the trust of a patriot in the past of his race is no freak of archæology, but simply common piety in the Roman sense of the word. The President refers at some length to the Gothic revival, and denies that it broke like dawn with a gleam of sincerity upon a world whose darkness was getting tired of sham and pretence in architecture. The true strength of the Gothic revival lay, he says, in the fact that as it went on its way it eventually made architecture unconscious, but its impetus was religion and romance and its strength was not that of archæology. The address will, of course, be read in full by all who are concerned with the right presentment of what architecture is and what are some of the fundamentals of the education of an architect, but we must include here one or two of the concluding sentences which sum up the argument admirably:—

"Archæology in architecture is not the refuge of exhausted imagination: rather it is the resource of a spirit of art which, seeking rest and finding none, returns home.

"The past is the mother's milk of our growth.

"The roots of architecture are as important as its branches and are the conditioning causes of its true fruit and flowers.

"While good manners are civilisation's device for the smoothing of intercourse between contemporaries, tradition is civilisation's device for the still more important intercourse between the men of old and ourselves, between ourselves and the men to come. Let us never be guilty of a breach in our link between future and past."

Much, of course, depends on the use of what the President means by archæology. Archæological study on the part of an architect is not a fumbling among dry bones unless "it take the form of a plunge into the archives of some alien civilisation with which our race has no blood affinity." But the spirit of the address will be appreciated by all, and even his use of the word archæology, which at first suggests that fumbling among dry bones, but which is the very opposite of what he means. But it is the more usual interpretation of the word which may lead to some confusion, for even Mr. Robert Atkinson, in the admirable lecture we print on p. 634, says: "To-day, when we think of past styles, we have to think not of their archæological interest, their historical value, but of their use as an inspiration to the modern architect." That Mr. Atkinson is in agreement with the President, however, is indicated by his further observation that "for the student who is to be a practical architect, his archæological study must be a study of the anatomy of buildings, a study of the history of the kinds of buildings, a study of the lines and shades and various deliberate effects on the part of the old masters."

In reality, the argument resolves itself into a reiteration of the value of tradition in architecture—the necessity for a knowledge of the works of the past, of the efforts of generation after generation of men working to attain knowledge and skill for which no one man can hope. The great works of the past were carried out by men who followed tradition, which they departed from only when precedent could not help them. We cannot hope to escape from the influence of tradition, and the attempts to do so in so much modern work have led to deplorable results. The idea that so long as an architect exercises his taste he is not acting amiss is altogether wrong: "With that sense," says Mr. Waterhouse, "came licence, and with licence a display of work, especially in our London streets, between, let us say, 1850 and 1875, which, while it remains unbroken or unburnt, will be a reproach upon our country."

The truth of this no one will be found to question, for the exercise of an individual taste which is not based upon a full knowledge of architectural precedent and form of building cannot fail to lead to the same licence to-day; but in our condemnation of this unbridled taste we must make our meaning clear and must not forget that our critics are sometimes educated men even when they are not architects as well, and that there is much in their warning and advice with which we must agree. Mr. Waterhouse referred in his concluding remarks to the admirable articles on Modernism and Design which Professor Lethaby is contributing to our columns, not the least merit of which is their directness of approach and their insight into the meaning of things which make a strong appeal to reason. We have paraphrased the President's argument, the meaning of which we can all understand, but what is the essential difference between his point of view and that of Professor Lethaby? Is Professor Lethaby's insistence on the value of sound construction, good craftsmanship and practical usefulness inconsistent with an equal insistence on the value of tradition in architecture which Mr. Waterhouse says tends to promote the true brotherhood of architects?

NOTES.

The President's Welcome.

THE well-filled gallery in Conduit-street on Monday night provided a happy tribute and a sincere welcome to the new President, and we imagine none departed homewards without the remembrance of a well-spent evening. The pleasure which we all felt in the admirable manner and substance of Mr. Waterhouse's address was not unexpected, and in addition to that we had the enjoyment of speeches from Lord Sumner and Sir Henry Newbolt. Good as the fare often is on occasions like this, we sometimes find there is too much to assimilate, but on Monday night we might have done with more, especially as there were present those who could have added to the interest of the proceedings. We have, however, no cause to grumble, and we only wish that we might more frequently have the advantage of hearing what those outside the profession have to say about architecture, architects, and building. There is a great deal yet to be done before the general public realise that art must be spelt with a very big A, and that it touches every side and interest of life.

Individual Insignificance

THOUGH the meeting did not have the presence of everyone of note in the profession, it included a distinguished and representative number, who were, however, very happily advised as to their individual significance and importance in the wide universe by the pleasantries of the President and Sir Henry Newbolt! We cannot always live in an even temperature, and we need both the stirring warmth of enthusiasm and the sometimes freezing influence of a calm philosophy to guard us from errors and eccentricities.

Tradition.

As the twenty-eighth President of the Institute, can we wonder if the keynote of Mr. Waterhouse's address was a claim for the importance of tradition as a link between the past and the uncharted future? The value and significance of tradition do not lie in any sense of the bondage it might create, but rather in its inspiration as a guide to us in our pathway from the past into the future.

The English Tradition.

WE are inheritors of the past, and what that entails should not be ruthlessly broken; and unless we regard adequately what is due to the historic claims of our own cities we shall fall into the abyss of considering only what is immediately advantageous to commercial interests. It cannot be asserted too strongly that these, though important, do not make up the whole of life in a civilised community. Beauty, proportion, the past, have equal, if not greater, claims for any nation. We badly need to recover that proportion in life which a shallow interpretation of the nature of "progress" has hidden from us. Progress does not lie in running away from ourselves; we are not only salesmen, and our buildings should emphasise not only the extent of material resources but the general well-being of life, which depends on the value we place on the right things. The commercial developments of the modern world tend dangerously to the dwarfing of humanity, and in the size of its buildings there may be more the assertion of its paganism than of its beliefs.

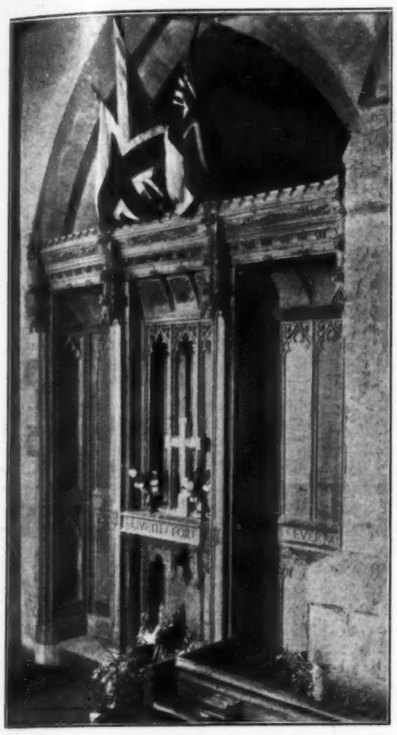
Ulster Parliament House Competition.

THE plea put forward by the Commissioner of Works that there is not time to hold a competition for the new Parliament buildings for Northern Ireland is surely hardly good enough where an expenditure of about a million pounds is concerned. This group of buildings might surely form the subject of a double competition, the first one for sketch designs involving little labour on drawings, which would give many of the younger men a chance, and a second one in which those architects of recognised ability and standing who were invited to compete might expect some definite payment.

American Architecture.

THE exhibition of American architecture to be opened about the middle of November in the Galleries of the Royal Institute of British Architects will no doubt arouse much interest. We have already in the Selfridge building and in the Bush building (now being erected on the Strand site) some indication of characteristics which are more American than English, and this exhibition should enable us to form a comprehensive judgment on its general character, and of those influences in American architecture which may

The Ducal Palace, Venice.
From the water-colour by MR. CYRIL A. FAREY at the A.A. Exhibition.



Ardingley War Memorial.
MR. L. KEIR HETT, F.R.I.B.A., Architect.
(*See p.* 641).

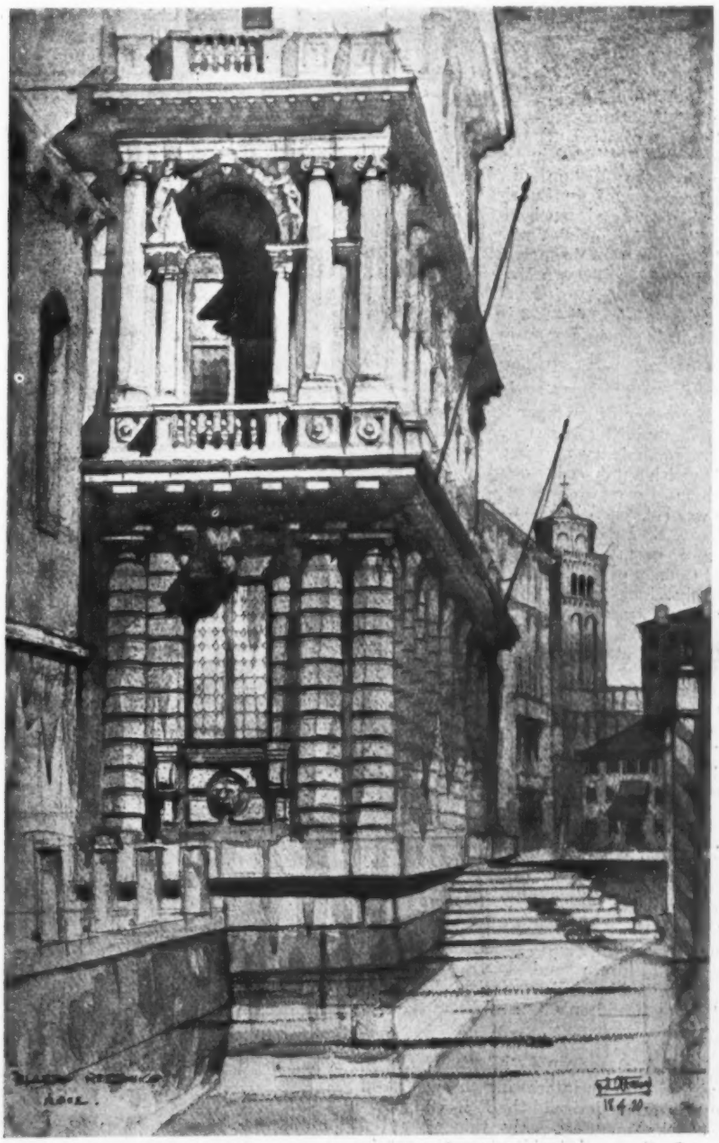
be expected to influence our own. There are undoubtedly characteristics in American architecture which differentiate it from English, which has grown out of a much longer period of history and tradition. Its characteristics are part of our national inheritance, and the English tradition of architecture is one which we shall wish to uphold. We should be lacking in what is due to those great traditions in too readily regarding the needs of American and English architecture as identical. There is a cosmopolitanism of commerce which is not favourable to beauty because it tends to demand allegiance to the one aim of commercial advantage. There has been much discussion recently as to the height of buildings here, but no building in an historic city should be built with regard only to what is owing to itself. It is part of a whole, and in a city like London the erection of huge buildings outclassing altogether in size their neighbours without regard to the general amenities of the street is a breach of manners and of civic claims which should be discountenanced.

Equalisation of Rates: A Suggestion.

IN our issue for August 26 we drew attention to the difficulties and objections attending the equalisation of rates and the danger of legislating on the question in a hurry. The principle of local government is that the electors shall possess a check on the financial administration of their elected representatives—a check which must at once disappear when money raised in one borough is devoted to outdoor relief or any other purpose in another borough. Fortunately, the Local Authorities (Financial Provisions) Bill is only a temporary measure, but temporary measures have a way of assuming permanent characteristics. There appears one way in which considerable relief could be given to the rates, which would not be open to the objections raised to this Bill. Education is a national duty and should be a national charge, yet some portion of the national education still falls upon the ratepayers and represents a considerable charge on the rates. There is less incentive for local authorities to practise socialist ideas or to bid for popularity in expenditure on education than there is in any other branch of expenditure, and they exercise less free will in this department than any other branch of expenditure administered by them. Has not, therefore, the time arrived when expenditure on education should be entirely a national charge payable out of taxation? This would give immediate relief to the rates, and such a step would be far preferable to the tinkering temporary measures now being resorted to, which are open to the serious objections that they will only increase the evil they are intended to cure and will foster a reckless policy of extravagance.

The Cheapness of Poetry.

A TIMELY commentary on Sir Henry Newbolt's statement at the Institute on Monday as to the cheapness of poetry might be noted in the announcement of Wednesday's wills—a brewer left estate valued at £302,280; a glover left £278,234; Mr. Henry Austin Dobson, the poet, left £7,150.



A Venetian Palace
From the water-colour by MR. CYRIL A. FAREY at the A.A. Exhibition.

GENERAL NEWS.

Professional Announcement.

On the appointment of Mr. A. Robinson, M.V.O., to the position of Commissioner of Public Works in Ireland (while still retaining the office of Principal Architect to the Office of Works in Ireland) Mr. Harry Allberry, A.R.I.B.A., has been appointed Deputy Principal Architect to the Office of Works in Ireland.

Atlantic Flight Commemorative Tablet.

A tablet to commemorate the first cross-Atlantic flight, by Sir A. Whitten Brown and the late Sir John Alcock, was unveiled at the Manchester Town Hall last week by the Lord Mayor of Manchester. The tablet, which was designed by Mr. John Cassidy, is in bronze.

Kinnaird Castle.

Kinnaird Castle, the Forfarshire seat of Lord and Lady Southesk, was practically destroyed by fire on November 7. The outbreak, which, it is thought, originated with the heating apparatus, was discovered early in the morning in the centre part of the fabric. The main front portion of the castle was entirely gutted. Many oil paintings, furniture, books, &c., were saved, but a collection of books in one of the corridors and many of the heavier pieces of furniture were destroyed. Kinnaird Castle dates from the fourteenth century, successive earls having added to its size.

A St. Paul's Memorial.

A memorial to the choristers and masters of the choir school of St. Paul's Cathedral who fell in the war was dedicated in the Cathedral on Tuesday by the Bishop of London. The memorial consists of an inscription in inlaid wood on the frieze and panels of the oak screen in front of the Choristers' Vestry in the North Choir aisle. This has been carried out under the direction of Mr. Mervyn Macartney, F.S.A., Surveyor to the Fabric of the Cathedral. The names of the 29 who fell—238 in all saw active service—appear on the panels on either side of the doorway.

Proposed Durham Surveyors' Association.

A large number of surveyors to local bodies within the administrative county of Durham attended a preliminary meeting at Durham in connection with a proposal to establish a County of Durham Surveyors' Association. The meeting was convened by the County Surveyor (Mr. Albert E. Brooks), and a decision was arrived at to form an association for the geographical County of Durham. For the purpose of formally inaugurating the organisation, electing necessary officials and preparing the programme, a further meeting has been arranged for December 3, at the Shire Hall, Durham.

An Architect's Estate.

The late Mr. Frank Gatley Briggs, of Blackburn and Liverpool, architect, who died on September 28, left estate valued at £18,281, of which £16,201 is net personalty. The whole of his estate he left to his wife absolutely, but should she have pre-deceased him, then he gave such of his pictures and drawings as may be selected to the Blackburn Art Gallery; £250 to Chapel-street Congregational Church, Blackburn; £250 to the London Missionary Society; £250 to the Colonial Missionary Society; and a considerable portion of the ultimate residue between Blackburn and East Lancashire Infirmary, Blackburn and District Nursing Association, Blackburn Ragged School, Blackburn Crippled Children's Convalescent Home, and Blackburn Orphanage.

R.I.B.A. American Architecture.

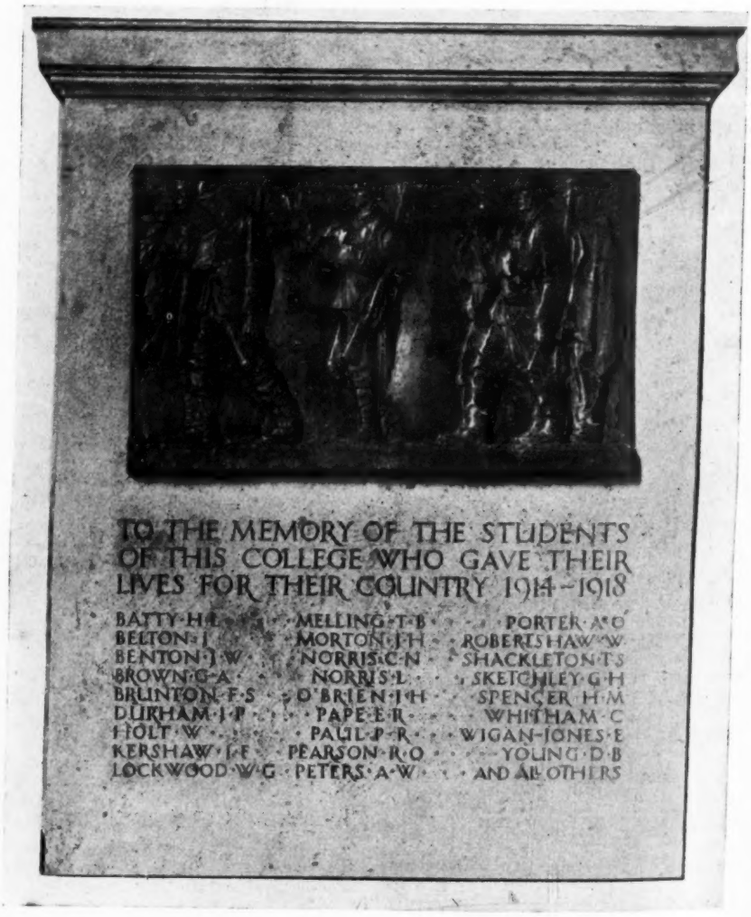
An exhibition of an interesting character will be opened in the galleries of the R.I.B.A. in the course of the month. Early this year the American Institute of Architects sent over to the old Salon in Paris a beautiful collection of drawings and photographs illustrating the achievements of American architecture in the 19th and 20th centuries, and at the closing of the Salon the organisers accepted the invitation of the Royal Institute to send it on to London. No such complete and representative display of American work has ever been seen in this country. The exhibition will be open to the general public from the middle of November to Christmas.

Old London Bridge.

Sir J. Gilmour (Lord of the Treasury), on behalf of the First Commissioner of Works, stated in the House of Commons on Monday that the Office of Works was anxious to preserve the recently-discovered ruins of old London Bridge, and approached the owners, who, however, were not prepared to incur the heavy expense involved. The First Commissioner, moreover, regretted that the funds at his disposal made it impossible to contemplate the purchase, while the Preservation Order would suspend building operations now in progress for any period up to 18 months, during which time the Order would have to be confirmed by Parliament; and as his Department could not guarantee such confirmation, it was possible that any such action might not succeed in preserving the archway.

Smoke Abatement in Germany.

In an interview with a Press representative, Mr. E. D. Simon (Lord Mayor-elect of Manchester), who is a member of Lord Newton's Departmental Committee on the Smoke Nuisance, and has just returned from a visit to Germany, gave some interesting information as to the progress which is being made in that country in the elimination of smoke. "The Ruhr industrial district," he said, "abounds with metallurgical furnaces such as we have at Sheffield, and which are a great cause of trouble with black smoke. Also, it is a district that is fairly comparable with south-east Lancashire. We were extraordinarily struck with the difference in such an area in Germany and here. Instead of smoky and dirty towns one found clean and pleasant towns, largely due to the prevalence of domestic smoke here and its absence there. The Germans use closed ovens and burn briquettes or wood, and they get heat for cooking and for heating houses at a much less expenditure of fuel. Their coal is not smoky, as Lancashire coal. On the other hand, it is certainly not so clean as the Swansea coal, and yet we have very dirty towns in South Wales. The second factor which I think accounts for the difference is that boilers and factory chimneys in Germany seemed better than the corresponding installations here. I think that is partly because coal is rather more expensive there, and therefore it has paid to give more attention to the scientific burning of coal. In Berlin, Dresden, Frankfurt, and elsewhere similar conditions prevailed in respect of smoke. Even in Essen, where there are a good many smoky chimneys, the state of things is in no way comparable with what it is in our worst towns. There are boiler-users' associations all over Germany, and there is co-operation to prevent the smoke nuisance. The associations exercise supervision by authority of the State. In the difficult case of metallurgical furnaces gas is largely employed for heating in Germany. The use of gas is rapidly extending in England, and is one of the chief solutions of the smoke problem."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KERSHAW J.E. PEARSON R.O. YOUNG D.B
LOCKWOOD W.G. PETERS A.W. AND ALL OTHERS

Royal College af Art Students' War Memorial.
Designed and Executed by MR. P. METCALFE.
[This memorial is to be unveiled to-day by General Sir Hubert Gough.]

CORRESPONDENCE.

The Projection of Cinematograph Pictures.

SIR,—The patent cinema screen and special method of projection, described by Mr. W. J. Blackmur in his letter in the last number of *The Builder*, is of great interest to architects and to the general public, as it promises to increase the pleasure derivable from our most popular form of entertainment. There are, however, some points in the letter which appear to be open to criticism.

It is stated that, when using the concave screen, "many of the scenes . . . were stereoscopic." A truly stereoscopic view can only be obtained when a different image is seen by each eye, and this is impossible when there is only one series of pictures on the film.

The curvature of the screen is referred to as having increased the light upon it, "for this was reflected from side to side." This appears to be claimed as an advantage, but it is actually the reverse, because the high lights in one part of the picture are reflected into the shadows of another. This would certainly increase the light, but the brilliancy would be reduced correspondingly, and it is this quality that is desirable, not brightness.

EDWIN SMITH, A.R.I.B.A., P.A.S.I.

Building and Clients.

[The following correspondence has passed between Messrs. Higgs & Hill, Ltd., builders, of Crown Works, South Lambeth-road, S.W., and Messrs. Albert E. Bullock & Jeeves, architects, of 141, New Bond-street, W. 1, and has been sent to us by the latter firm in the hope that it will draw attention to the necessity for using every endeavour to reduce the cost of building.]

"Messrs. Albert E. Bullock & Jeeves.

"Dear Sirs,—You will agree, we are sure, that the great need at this time is that public confidence in building should be restored. Many architects are suffering, and, while contractors may have large contracts in hand, there is a great dearth of smaller building work. This means that unemployment generally is increased in the ranks of labour.

"We feel that contractors may be able to render practical assistance to the profession as well as to themselves by issuing announcements urging that small building contracts should be put in hand at once, and showing that building costs are no longer exorbitant. Architects would then have a ready means of moving their clients to commence delayed work. . . .

"HIGGS & HILL, LTD."

"Messrs. Higgs & Hill, Ltd.

"Dear Sirs,—In reply to your favour of the 1st instant, we regret that we cannot concur in your suggestion that building costs are no longer exorbitant, as we have had all through this year, and have still, a number of small building works held up on account of the cost of bricks, and in the district of Watford our lowest quotation was 165s., delivered, for stocks.

"If you and your fellow contractors could bring pressure to bear upon the Government to release the embargo they have on bricks, of which we understand—to quote one instance only—there are one-and-a-quarter million at Woodside Park, Croydon, which the maker is not allowed to sell owing to the 'dog in the manger' spirit of the Government, there would be a greater impetus put on building in small contracts.

"ALBERT E. BULLOCK & JEEVES."

The A.S.A.P.U. and Unemployment.

SIR,—May I be permitted to draw the attention of your readers, more especially those who may be architects' assistants at the moment unemployed, to the invitation extended to them in the advertisement appearing in your paper of to-day's date? This invitation appeared also in your issue for November 4, but so far quite an incommensurate number of this particular class of worker has responded. My Executive Council is taking this action with a view to assisting the unemployed within our professions, and it would appear incredible that the many such who, it is known, are suffering in the first place from the overcrowded state of the profession and in the second from the economic crisis in the building industry and other industries to-day, should shut their eyes to their own interests.

It is hoped to influence such public bodies and firms as may be contemplating embarking on schemes for the relief of unemployment to consider the claims of the professional worker to relief. Before doing so, however, it is essential to be in possession of sufficient data, without which such representation can only be useless. My Council cannot, naturally, guarantee the relief it seeks, but is prepared to make the attempt.

J. B. HECTOR,
Acting Honorary General Secretary.

SURVEYORS' FEES ON ABANDONED HOUSING SCHEMES.

A MEETING of members of the Surveyors' Institution practising in quantities, and members of the Quantity Surveyors' Association, was held at the Institution on Friday last to consider proposals which had been the subject of negotiation between the representatives of the two societies and the Ministry of Health for the purpose of meeting the situation created by the abandonment of housing schemes and by the employment of separate surveyors on a number of sites forming one scheme. Mr. Walter Lawrance presided over a large attendance.

In opening the proceedings, the Chairman gave a resumé of the negotiations which had taken place between the representatives of the profession and the Ministry of Health, in the first place in connection with the laying down of surveyors' fees under General Housing Memoranda Nos. 4 and No. 31, and later in endeavouring to come to an agreement with regard to differences of opinion which had arisen as to the proper interpretation of those Memoranda and as to the fees which should be paid where schemes were wholly or partially abandoned.

A draft of a new General Housing Memorandum prepared by the Ministry of Health was placed before the meeting. The principal provisions contained in this draft are:—

(1) That for the purpose of calculating the fees payable to surveyors the whole scheme of a local authority should be taken as the unit (exception being made in cases of conversion into flats and the erection of block tenements); and that where quantities have been prepared by more than one surveyor for houses included in a single scheme the total fees payable should be pooled and apportioned *pro rata* between them, subject to a proviso that where the amount so apportioned came in any case to less than the following minimum the fee should be made up to that sum. The minimum laid down was 2½ per cent. on the first £5,000 and 2 per cent. thereafter on the cost of the houses included in one block of each separate design for which separate quantities had been prepared, and ½ per cent. on the cost of the remainder.

(2) That where houses for which quantities had been prepared and the houses were not erected or were reduced in number, the payment in respect of the abandoned houses should be be one-half of the fees which would have been payable (subject to certain maximum prices for different types of houses) if the work had gone on.

(3) That in the event of further houses being erected from the quantities previously prepared, the balance of fees should be payable on the basis of the difference between the fees on the tenders then accepted and the amount already paid.

A lengthy discussion followed, in which reference was specially made to the adverse manner in which surveyors engaged on small schemes, comprising a large proportion of separate types, would be affected. It was stated that special cases of this kind should be laid before the Ministry for consideration.

It was agreed that a recommendation should be addressed to the Ministry to the effect that where schemes were abandoned the quantities should be returned to the surveyor; and that in the event of schemes being proceeded with later the surveyor originally instructed should be again employed.

The Chairman moved a resolution that the draft memorandum should be approved, and this was carried by a large majority.

COMPETITION NEWS.

Canadian Battlefields Memorial.

The Governor-General-in-Council has approved the award made by M. Paul Cret, Mr. Darling, and Professor C. H. Reilly in the Canadian Battlefields Memorials Competition. The award gave the first place in the competition to Mr. Walter S. Allward, a sculptor of Toronto, and the second place to Mr. F. Chapman Clemesha, an architect of Regina, and premiums of one thousand dollars each were awarded to Mr. Cecil Burgess (Ottawa), Mr. Charles S. Cobb (Toronto), Mr. Kenneth G. Rea (Montreal), and Mr. P. R. Wilson (Montreal).

It was recommended that Mr. Allward's monument should be placed on Hill 62, to which a special road over one mile in length is already in course of construction. This monument, which greatly exceeds in size and cost all the others, will be considered a special monument to Canada's 14,000 unknown dead.

It was also recommended that Mr. Clemesha's monument should be erected on the other seven sites in France and Belgium.

Professor Percy Nobbs, M.A., F.R.I.B.A., of MacGill University, Montreal, acted as architectural adviser throughout and drew up the conditions of the competition.

Lille.

The premiums in the competition organised by the Municipality of Lille for schemes for extending and beautifying the city have been awarded as follows:—

FIRST SECTION.

First Premium (30,000 frs.): MM. Grébert Jacques, Cordonnier, fils.

Second Premium (20,000 frs.): MM. Scrive-Loyer Jules and Bourdeix Pierre, Collaborateur: M. Franquet Auguste.

Third Premium (15,000 frs.): MM. René Delannoy and Marcel Favier.

Fourth Premium (10,000 frs.): MM. Bonte René and Delbarre Jules.

The fifth and sixth premiums were not awarded.

SECOND SECTION.

Third Premium (3,000 frs.): M. Ricouard Eugène. [The first and second premiums were not awarded in this section.]

Chauny.

In the International Competition, organised by the Municipality of Chauny for the supply of drinking water and a sewage disposal scheme for the town, the first prize for sewerage and the second prize for waterworks have been awarded to English engineers, Messrs. W. H. Radford & Son, of Nottingham, and the second prize for sewerage and first prize for waterworks to a French engineer, Monsieur Jean Malliard, Engineer of the Public Works of Paris. A scientific and technical jury of about forty members, including officials of the French Government, was specially appointed in Paris to select the schemes.

Other Competitions.

Competitions still open include the following (the dates mentioned are (1) the sending-in date and (2) the date of our issue in which full particulars were given):—Labour-Saving House: November 30, September 9; Harrogate War Memorial: December 1, September 23; Hastings Music Pavilion, November 30, October 7; Southend War Memorial, November 30, October 7 (banned by R.I.B.A. and Society of Architects); Auckland War Memorial: May 1922, Sept. 2.

OPENING MEETING.

THE first meeting of the Royal Institute of British Architects was held at No. 9, Conduit-street, W.1, on Monday evening last. The chair was occupied by Mr. Paul Waterhouse, M.A., F.S.A. (President), and among the large and distinguished company present were the Earl of Crawford and Balcarres, K.T., P.C. (H.M. First Commissioner of Works), Lord Sumner, P.C., G.C.B., Lord Charnwood, Sir Aston Webb, K.C.V.O., C.B., P.R.A., Sir Reginald Blomfield, R.A., Sir Banister Fletcher, Sir A. Brumwell Thomas, Sir Lionel Earle, K.C.B., Sir Henry Newbolt, Sir Charles T. Ruthen, Sir Sydney Russell Wells, Sir Anthony Hope Hawkins, Sir Charles J. Holmes, Professor J. W. Mackail, M.A., LL.D., Mr. A. B. Walkley, Mr. James Haynes, Mr. H. Godfrey Evans, Mr. Emery Walker, Mr. F. W. Pomeray, R.A., and many well-known architects.

PRESIDENTIAL ADDRESS.

In his Presidential Address, which was prefaced by reminiscences of the time when he and some of the guests were at Balliol together, Mr. Waterhouse said:

The great and good Earl de Grey was, as the *Kalendar* and history will tell you, the first President of the Institute. He was a statesman who in his time played many parts, and a man who was so willing to give to our body the prestige of his name and the help of his personality that he held the presidential office, to our great benefit and to his own honour, for no less than a quarter of a century.

That is one reason why, gentlemen, though the Institute is 87 years of age, I have only had 27 predecessors in office. The other reason is that though two or sometimes three years have been the normal spell of service, Sir William Tite alone of all the line was persuaded to come back to the chair for a second period of captivity after four years of freedom. But in those days Tite was no longer an architect—he had retired; he retired at about 55 years of age; and his energies outside the Institute were devoted as a bank director to banking, and as a member of Parliament to thwarting the Gothic tendencies of Sir Gilbert Scott.

I do not propose to give here a history of my 27 forerunners. Out of the whole number I have personally known 17, and there is no reason in the nature of chronology why I should not have known by sight several more. In fact, there are architects in our midst, men of still active energy, who were born before the first of our Presidents died. It is perhaps a curious fact that while my name is the 28th on the list, my father's is the fourteenth.

It is a happy and pleasant thought that out of my 27 predecessors no fewer than eight are still very much alive, and among them I venture to reckon—if they will allow me to say so—some of my very best friends. Our past Presidents form, though we may not always recognise the fact, a kind of House of Lords in their relationship to the Council. No one but a President, or one who has been closely associated with the duties of this chair, can know what the temporary chief of our brotherhood here owes to the fact that he can lean at times of difficulty on the strong support of those good men and true who have been through the career before him. I give here no hint of dependence. A President must fight his own battles, or, if happily there are no battles, must at least steer his own course; but the post is one of a certain isolation, and the sense that there is at hand among a body of tried friends sympathy, counsel, and advice is a boon which no sound President can wisely disregard.

Our procedure affords, to my mind, too little opportunity for the free acknowledgment of certain past services. I want, with your leave, to make such an opportunity for myself by saying a word about one or two friends of mine and of yours whose modesty will resent every word I say.

No one will ever adequately say or perhaps know how much modern architecture as a profession owes to Sir Aston Webb. His singularly happy personality, welcome in all kinds of society, crowned as it has been by his appointment to the courtly post of President at the Academy, has won for all his colleagues an honour for which we may be always grateful. Sir Ernest George has emphasised as few others before or since the gentleness—I can think of no better or nobler word—of a true artist's life. Thomas Colcutt is a name that has meant to me virility of execution, strength, courage, and, not l ast, great friendliness. Of Stokes in his day we knew the force and fire. If fire and force have in later years been dimmed by untimely ill-health we must never forget that it was his Atlas back that bore the weight of the new birth of the Architectural Association. I think with pride of the fact that I sat at his (literally) round table in Storey's-gate in the days when he chose to attribute to the collaboration of others the great educational movement of which he himself was perhaps the real mainspring.

I have mixed these metaphors, but they are better for the mixing.

Sir Reginald Blomfield, an old personal friend, has shown, as few modern architects have shown, how the literary and historical career can be successfully linked with the practical and creative. We owe him much for this, for in the first place he has given the lie to the theory that such a combination is impossible; and secondly, he has done honour to our Institute by the respect in which his written words are so widely held.

Lastly, among living men I come to Ernest Newton and John William Simpson.

We tried at the end of the war to tell Newton on a little script of parchment what we thought of his work as President during the terrible subversion of our civilisation that our world went through. I hope it will always be remembered of Newton that a man whose happiness consists, I believe, in the creation of some of the tenderest and most tranquil of domestic architecture, said to himself, "Here is an exceptional and perhaps uncongenial job ready for me to do. It is a call. I will answer it."

Some of us know with what tact and grace, but at the same time with what infinite labour, and, I suppose, fatigue, he laid hold of and carried through that heavy task.

John William Simpson has made my own task an extremely difficult one. I was going to say that he was a born chairman, which indeed he is; but as he can also be described as a born administrator and a born after-dinner speaker as well as a born architect and a born writer of humorous letters, I am in danger of calling up by my language a rather strange portrait of the infant Simpson in his cradle. Let it suffice to say that his rule of the Institute—I don't hesitate to use the word rule—was to my mind a very masterly exhibition of a range of talents which not by any means every good architect possesses. His time was a difficult time, and he surmounted his difficulties, facing odds of ill-health with remarkable pluck, and with a skill which sets his successor one of those examples which, though inspiring, are also terrifying.

I cannot refrain here from a few personal words. It is difficult for me to tell you, my friends, with what emotion I occupy this chair. I can't pretend to be among strangers. I have been an Institute man all my professional life, and most of you know me in a more or less personal way. Perhaps it is the very fact of my being so entirely at home in this room and among these familiar faces that gives me the sense of anxious responsibility of which I venture to speak. I have felt ever since I came within reach of the chair that others would fill the office better than myself, and I should never under any circumstances have done anything to encourage my chances of getting here, unless, indeed, ordinary work for the Institute can be interpreted as encouraging those chances. But it was the clear wish of some of you that I should be nominated, and being elected I need not disguise from myself or from you the fact that to be your President is an honour which no architect who believes in the brotherhood of art can despise. I live, as it happens, a life of which the duties are sometimes complicated and numerous. My time-table is at times, like that of all busy and happy men, an outrage on the eight-hour day. But such as I am, I am here to do as far as in me lies the duties you have laid upon me, sure that you will pardon the shortcomings which are certain to reveal themselves. With us every succeeding epoch is by the very march of time more onerous than the past; but I have at least courage, and there is no courage like that of the man who feels sure that he has friends about him.

Among the happy phrases of that most happy writer St. Paul is the expression, "We upon whom the ends of the world are come." Those ends of the world come upon every generation in turn, and would be unbearable were it not that the very ends are, after all, only beginnings. We picture ourselves seated on the very prow of progress with a long wake behind. But the prow *is* a prow, not a stern: we are cleaving the flashing waters of time, and so far from being at the last extremity of history we should think of ourselves as in mid-voyage, or in a voyage less than half begun. I said that I believed in the brotherhood of architects. I do. I believe not only in the bond that unites all of us as contemporaries, but equally in our joyful bondage to the men of the past. And having got so far, may I say that I believe just as much and just as joyfully in our union with the untold ages of architectural toilers who are to follow? Our duty towards them is amazing in its force.

Some of the aspects of modern architecture are so remarkable that I want, with your leave, to devote the remaining minutes at my disposal to-night to some consideration of them.

We architects are set in the midst of critics: the whole world of intelligent opinion—to say nothing of the world of unintelligent opinion—is perpetually on the watch to offer us warning and advice. For the most part we pay but little heed to the advice or the warning: we go on our way, we take our own course; we have our own courage, and if attacked we sometimes—but rarely—attempt a reply. What are the lines of our defence and what is our bulwark of justification? This is a serious question. It deserves a serious answer. Can we give it?

Let me say at once that the answer is a difficult one to frame. Our confidence is no vain confidence, but on what is it founded?

I venture to think that the very difficulty of our reply is based upon some qualities of architecture which are none the less important because they are obscure. The obscurity is an obscurity inherent in the nature of our art itself. And if it remains an obscurity even to ourselves, that is no proof of ignorance, still less of inefficiency, on our part. It is a proof rather of the great depth and height of

a mystery which of itself ennobles architecture.

Look at the matter historically, and some facts will emerge.

Some of us are old enough to have been framed in our youth by the later breaths of the Gothic revival. It is easy to say that it broke like dawn with a gleam of sincerity upon a world whose darkness was getting tired of sham and pretence in architecture. Easy to say, but quite untrue! When shall we say that the Gothic revival began? Like most decent architectural movements (and it *was* a decent one) its beginnings were graduated, but I suppose it would be safe to say, without worrying about sporadic surprises of early days, that it opened in 1825.

The great Gothic manifestation of the moment was St. Luke's, Chelsea. I do not abuse St. Luke's. I admire it (in one of the senses of the word "admire"), but as far as truth and sincerity go I would just as soon have its contemporary, the now destroyed Hanover Chapel, by our first architect President, Cockerill.

Of course, my comparison is rather unfair. It would be more just to the Gothic workers if I were to take a later and riper product of their movement. I might come on to the Houses of Parliament, the foundation stone of which was laid in 1839, and set against it Barry's classic work. Enormously as I reverence the Palace of Westminster, a giant's effort, which instead of being a giant's failure is a giant's triumph, I cannot feel sure that as architecture it has a truer claim than the works of the same designer in his Roman and Italian moods.

The fact is that the sincerity plea will not on its own carry the Gothic revival into heaven, and if by sincerity we mean commonsense it is certain that sincerity is no real criterion of art.

It is true that quite early in the Gothic days people began saying that the Gothic movement was the pathway of truth, and that its mission was the extirpation of pretence. The penumbra of Ruskin was heralding Ruskin's approach, but for us to say in these latter days that the battle was won—as far as it was won—because one style was righteousness and the other deceitful sin is to misunderstand not only the nature of art, but in particular the nature of architecture.

The true strength of the Gothic revival lay in the fact that as it went on its way it eventually made architecture unconscious: by which I do not mean ignorant.

Its impetus was that of religion and romance; its strength was not that of archæology. The archæology of it was its nourishment in two senses only, the first being that without search into the facts of the past no modern architect can achieve taste, and the second that what we call archæology is, after all, a mere quarrying into the pit whence we were digged.

And this is one of the points I want leave to make to-night. We talk of archæological study on the part of an architect as if it were a fumbling among dry bones. It is nothing of the kind, unless, indeed, it take the form of a plunge into the archives of some alien civilisation with which our race has no blood affinity.

But Western Europe is a small place, and its history during the Christian era is but a tiny span.

Do we realise, any of us, that if we were to invite our direct ancestors as far back as the reign of Augustus to an evening party we could get them all into less than a quarter of this room? If each of us were to follow the direct male line, inviting his father's father, his father, and so on, the whole company from the year nought to the year now would only be about sixty persons.

The Renaissance is looked upon as a great revulsion, but the men of the Quattrocento were only forty-two generations off the golden age of Rome, and we of to-day have only a score of ancestors between ourselves and that glorious century that saw the building of Salisbury Cathedral.

To-day history or archæology, or for that matter the simple study of still standing stones, take the place of the traditions of the mediæval or premediæval workshop, and if we are accused of antiquarianism in our study, or of archaism in our practice, let us answer boldly that the trust of a patriot in the past of his race is no freak of archæology, but simply common piety in the Roman sense of the word. It is, in fact, respect for the traditions of our race.

I should like to point here to a product of the Gothic revival—a by-product, it is true—which made not for good, but for evil. Up to the first quarter of last century every architect studied the Classic rules. With the dawn of the Gothic fervour there came a sense that the old foundations were being loosened, and before men came to realise that the new mediævalism carried with it as great an obligation to type as the older classicism there broke out a sense—a perfectly reasonable sense—that so long as an architect exercised his taste he couldn't be acting amiss. With that sense came licence, and with licence a display of work, specially in our London streets, between, let us say, 1850 and 1875, which, while it remains unbroken or unburnt, will be a reproach upon our country. I said it was reasonable to let taste be the criterion. It was. But there is no taste without knowledge, and I question if reason is in architecture a qualified judge. I am willing to be misunderstood if I say that there are realms where reason is not supreme. What is reason? I suppose it is civilisation's substitute for instinct; and without instinct there is no art.

But time advances. I have entered too big a subject. Rather than leave it with a ragged edge I will ask you to let me express the rest of the train of thought in separate sentences, begging you not to think from their form that I regard them as epigrams or aphorisms.

Archæology in architecture is not the refuge of exhausted imagination: rather it is the resource of a spirit of art which, seeking rest and finding none, returns home.

The past is the mother's milk of our growth.

The roots of architecture are as important as its branches, and are the conditioning causes of its true fruit and flowers.

While good manners are civilisation's device for the smoothing of intercourse between contemporaries, tradition is civilisation's device for the still more important intercourse between the men of old and ourselves, between ourselves and the men to come. Let us never be guilty of a breach in our link between future and past.

If evil communication corrupt good manners, evil manners make corrupt communications.

Finally, a last thought. It seems a far-fetched one, but if you will consider it, it goes to the very heart of the matter.

The most wonderful fact in modern architectural history is not the capture by America of classic architecture, but the capture by classic architecture of America.

I was going to end there, when I saw last week's *Builder*, and in last week's *Builder* a man whom I reverence very much—probably the greatest of our architectural thinkers and writers—utters his latest words. If you will read that page you will know all about the ineptitude of Classic and the silliness of Gothic, and you will read all about the Ionic column as a thing with "fashionable side-whiskers" on it. Our friend—we all know him—takes a view of architecture diametrically opposed to the view I have come to, and I think the bulk of us share views very much on the lines I have been taking to-night. I am sure there is every room for free discussion about art. The great value of the man who discusses questions of art lies not so much in the conclusions he comes to as in the fact that he jumps into the subject and splashes about making other people jump in with him. We welcome every kind of discussion about art, and we know that the words we can read in last week's *Builder* are good for us so long as we do not take all the conclusions to heart as prophecies or facts. But I would remind the distinguished writer that Nature, who is a pretty good performer in the way of the production of beauty, believes in the conformity to type. (A woman, if she were to appear among us with a face which was a departure from traditional type in every direction, would not be married for her looks.) And further, I think this: You will never find a successful architectural period in the past that has worked on the lines of that freedom from past precedent which is recommended by our thoughtful and philosophic friend.

LORD SUMNER, in proposing a vote of thanks to the President, said he had known Mr. Waterhouse for the past forty years, but had no idea that he could charm and instruct an audience to such an extent as he had done that night. He had listened with the closest interest to the address, which seemed to range over many fields of literature and art, and towards the end of the address he heard a series of glittering epigrams. He would like to appeal to the Institute to do something during the period of Mr. Waterhouse's presidency for the education of the public, who, like himself, would fain believe that under more favourable auspices they might have been architects too, but found themselves occupying no better position than atoms in the large body of clients. Was it not possible to do something to educate the public in architecture? In walking about great cities the people were all the time seeing buildings worthy of attention. It was true nine-tenths of them ought not to exist, but if those who saw them could make up their minds why they should not exist something would have been learned. How was it that the great bulk of the English people knew or cared nothing whatever about architecture? Unfortunately, an architect often had to obey his client and accept his ideas of taste. Could nothing be done to make the ordinary man realise that, apart from the moral side of architecture, apart from archæology and styles, there would be a great satisfaction in living among buildings in great cities if they could appreciate the importance of mass, proportion, light and shade, interesting skylines, the relation of buildings to their surroundings, and so forth? Could not the idea be got rid of that as soon as a fine building was erected the next thing to do was to plant trees in front of it? He did not know how the intelligence of the public was to be reached—perhaps it was still to be discovered, but the present was a democratic age, and no art which was obliged to extend itself in costly building could live unless it educated its paymasters. How much advantage would be obtained in London by destroying buildings right and left so that the good ones might be seen and the bad ones forgotten? And how much richer life would be if the leaders of the great arts were among our guides and leaders?

The vote of thanks was seconded by SIR HENRY NEWBOLT, who said as a poet he had a special interest in architecture, particularly in the two points brought out in the address about the brotherhood of the arts and about time and style. Both architecture and poetry fulfilled the same function in human life—they both took materials concerned with everyday life and transformed them into something entirely different. It had been said that the career of the successful Englishman might be expressed in architectural terms—during the first part of his life he was the architect of his own fortune, and during the second part he was the fortune of his architect. When he was young it was the rule for everybody with any education to take an interest in architecture, but he did not notice the same tendency to-day, and it would be a good thing if that interest could be revived.

The vote of thanks was carried with acclamation, and a brief response by MR. WATERHOUSE concluded the proceedings.

"GET AT ESSENTIALS."*

IN the last number of *The Builder* Mr. Robert Atkinson's fine cinema theatre at Brighton was fully illustrated. It is now specially interesting to follow up the practical example of the work of so thoughtful an architect by an exposition of the theory underlying that work. More than that, we may conclude from the circumstances under which the lecture was delivered that the theory of architecture and of æsthetics here set down is the theory underlying the work of the Architectural Association Schools, a theory not hitherto very clearly expressed.

"We have at the outset," said Mr. Atkinson, "to consider what is the difference between building and architecture. Architecture is not building only. If we take a broad view of the buildings typical of a given country at a given period in history we must envisage the architecture of that period as something more than the sum of those buildings. We have to consider it as something of the whole soul and civilisation of that period. Men had to build for the purposes of protection. If we consider the habits of a community of men, the requirements which those habits produce, the materials, tools and implements to hand, we can understand their building and its technique. But it is not possible for us to understand their architecture until we also take into consideration their desire to make of their buildings something beautiful, and behind that desire all their aspirations, thoughts, and discriminations. In early periods, no doubt, this process of making beautiful was little more than a process of adding decoration. The term decoration can, however, be used in a broader sense; it can be used as applying to the whole cause and object of the building in question, the object of creating something beautiful on the earth and out of the earth. Architecture, therefore, is not an art only, it is the crystallisation of the whole of civilisation at a given time. To-day, when we think of past styles, we have to think not of their archæological interest, their historical value, but of their use as an inspiration to the modern architect. Their inspiration as architecture will thus depend not only on the building element but on the civilisation element.

"The building element to-day is no longer of first importance to us for this reason. In the old days materials were a condition, a limitation, of architecture: men made beautiful buildings with the materials they had to hand and with no others. To-day, material does not limit. World transport has so far altered fundamental conditions of architecture. We can build with whatever materials we can afford, and those at a distance may be cheaper than those near to hand. What, then, are the conditions that are to produce the forms of the future? We are on the right lines when we develop the moral and hygienic tendencies of our civilisation. Let us study cleanliness; let us study hygiene, which is its other name. The greater the demand for cleanliness on the part of the community the greater are the demands upon architects, and the more thoroughly must we study those demands. Similarly, the comforts, the amenities, the recreational demands of modern life are continually imposing on us our conditions, together with new stimulations to thought.

"For the public there will always be the sentimental interest attaching to the buildings of the past or of the present, but for the student who is to be a practical architect his archæological study must be a study of the anatomy of buildings, a study of the history of the kinds of buildings, a study of the lines and shades and various deliberate effects on the part of the old masters. You must remember that new buildings cannot be exact copies of old ones for the reasons before given, namely, that if the building is to be a work of architecture it is to be the work of our civilisation, not the work of a past civilisation. Students of architecture must be students of the future. You must be artists who anticipate the progress of your community. Insight is required by you more than any other faculty. Office buildings to-day are often built by men with no insight, and, when built, are almost immediately out-of-date. The life of your building is likely to correspond with the penetration of your mind. Develop the faculty of criticism. It is the basis of design.

"Remember also the danger of over-design, that is, of too much complication. In the best buildings of the best periods the simple reaction of habits, thoughts and materials produced of necessity a balance between the decorative and structural elements. To-day no such simple reaction exists. It must be compensated for by your own discrimination. Owing to the wealth of material to hand the danger to-day is of over-decoration. You should design by elimination. The greatest effects are the effects of simplicity. You must be positive of what your building is going to look like when finished. You must aim at the simplicity due to this positive knowledge, and this positive knowledge will depend upon the power and equipment of your imagination.

"What do we mean by the word 'style'? We mean only labels for the sake of convenience. The styles are non-existent. The more you know about them the less is it possible to draw lines between one and another, but at each apex the great styles, like the great languages, stand perfectly distinct the one from the other, and however much confounded by the theorist will always be obvious to the artist. The archæologist uses architecture as an historical record; the architect, as food for his own mind. Styles of architecture are styles of civilisation. If you are both civilised and of the twentieth century the 'style' of your building will be 'twentieth century.'

"Every building form has an origin in practice or in material. The difficulty to-day is that so many of these forms survive as relics. The architecture of to-day is still the language of masonry design. The stone tradition is so strong that it is still used by craftsmen not only for timber but for other and quite modern materials. You must know the language of masonry and know how to use it (no modern material has so far proved itself its equal where permanence is concerned), but you must do more: learn to dissociate the language of stone from the ideas of steel and of ferro-concrete. You will have both to develop the ideas of the modern materials and discover their language.

"From the point of view which I have been putting before you the elements of architecture—that is to say, floors, walls, roofs, openings, &c.—require to be thought of both as structural necessities and also as decorative entities. It is possible to view them only as structural or only as decorative, and schools of design have been built upon each view, but, better still, regard them as both. The builder will be concerned with the necessities only, the decorator with the ornament only. But the full stature of architecture requires them both.

"Use and enjoy rich materials wherever possible, and do not spoil their values by over emphasis. As architects you must understand what scale means. The scale is the relation of parts to the whole, and is essential to the understanding of harmonies and contrasts.

"To-day the architect, if he knows how to do so, can employ the vast resources of engineering to express his ideas and can impress the public by his audacity. In the old days the dome of St. Peter's, with a span of 140 feet, was considered the wonder of the world. Now, stations are built with a span of from 300 feet to 400 feet. The limits of construction are now being so widened that the architect can construct what he likes, but with these great resources at his disposal he remains, as an artist, dependent still upon the scale of his own mind and the vitality of his own ideas.

"The theory of architecture is common sense. You must so train your perceptions that when you are brought face to face with a problem in design you may go at once to the essentials. Find your dominant. You will then have the beginning of a thread that will lead you logically to your remotest details. The types of modern buildings are coming to have their recognised forms and expressions, so also are the types of materials that we have to work with. Let your sense of scale be applied first to your expression. Keep it to within the limits of common sense. The cottage should not, for instance, be so large that it might well be a mansion. There should be harmony between your idea and the form in which you put it. On the one hand, the idea should not be too big for the form, or you will get a sense of strain and instability. On the other hand, a large and complicated form with an inadequate idea behind it will lead to dulness and pretence.

"As students, you must use your powers of observation outside school. You should be learning all the time. Learn something from every building you visit, whether a shop, a house, a bank, or an hotel. Ask people who use the buildings for their criticisms. Learn to be authorities on the most modern problems. These powers of observation you can employ anywhere and everywhere, and it may be more important to you than any other branch of your education. It is often outside knowledge which makes all the difference between a good or a bad plan. The logic of the architect should be beyond dispute. If mistakes are made they should be mistakes on the right side. Learn your factor of safety, but see that it is not a factor of ignorance. The errors that do most harm are the errors due to preconceptions. Develop your brains and use them to get at essentials. This will need courage, the courage which is always required to face the essential; but it is worth while. You have only to walk down any street to see the errors of architects who have not courage to make the essentials of a problem the dominant of the design. The result is a lack of articulation, a lack of life. Only by thought can you wield the heavy language of architecture and achieve that positiveness I have spoken about."

* Mr. Robert Atkinson's Introductory Lecture to his Course on "The Elements of Architecture," at the A.A. Schools.

THE ARCHITECTURAL ASSOCIATION.

The Endowment Fund.

The following donations to the Endowment Fund of the Architectural Association have been received since July 8:—

	£	s.
Mr. G. M. Horder	10	10
Doulton & Co., Ltd.	25	0
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Debenture Issue.

The following subscriptions to the Debenture Issue have been received since July 8 :—

Mr. F. C. Eden	£50	Empire Stone Co. Ltd. ..	£100
Dorman, Long & Co. ..	250	Mr. W. H. Ward	100
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EXHIBITION NOTES.

THE NATIONAL PORTRAIT SOCIETY.

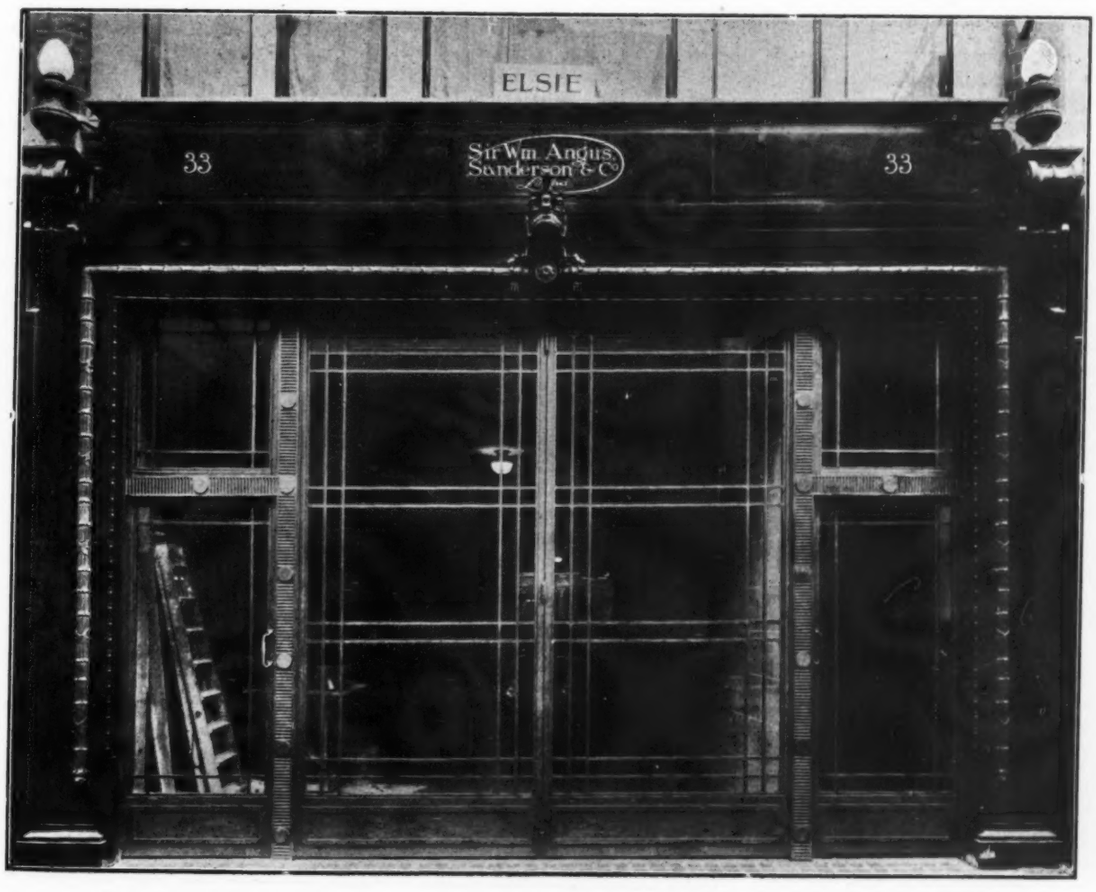
It is curious that we should see the simple grave dignity of one of Whistler's best works hung at the National Portrait Society's Exhibition in the company of so much that is crude and demonstrative, and it is curious also that there should ever have appeared some justification for Ruskin's farthing libel. From the point of view with which we are here more especially concerned, such a picture as the Lady Meux portrait by Whistler is of the greatest value, and there are few, if any, things in the Gallery which can claim equal consideration. If the main object of a portrait is to convey some true image of life and character there may be many works entitled to be called successful, such as the vivid rendering of the Rt. Hon. Wm. Hughes (84) by Sir Wm. Orpen. But in all the portraits by McEvoy there is something more satisfying perhaps than their brilliance and vivacity, and that is the varied and pleasing schemes of colour in which they are clothed, such as Nos. 103 and 57. There are few subjects so fresh and pleasing in colour as Gerald Kelly's "Barbara Black" (4). On the whole, we should imagine, judging from this exhibition, that present-day portraiture is somewhat under a cloud as regards its finer possibilities. That it may be made the vehicle of mordant humour one has only to look at the portrait of our Prime Minister to realise.

SKETCHES AT THE A.A.

The exhibitions at the A.A. are so interesting that it is a pity a number of the subjects cannot be well seen on the window side of the room. The sketches by members now on view appear to us exceptionally good and include not only graphic and telling representation of buildings but many pleasant studies of landscape, some of which are much beyond mere literal renderings of actual scenes. There are 53 exhibitors, but as there is no clear indication of names and subjects to identify the authors with their work, we must content ourselves with a strong recommendation to all who like sketches to go and see them. There are many well-known names amongst the exhibitors.

THE R.B.A.

The 156th Exhibition of the Royal Society of British Artists includes some work of excellent quality, but the smaller galleries have generally been more attractive than in the present exhibition. Of chief interest in these is a fine spacious sunlit landscape by Leonard Richmond, "Auvergne" (31), which shows his mastery of perspective and brilliant colour. This artist has also a small pastel of "Hyde Park Corner," which is a well-balanced picture from the inside of the park looking towards Decimus Burton's screen from under the trees; the colour is pleasing and none the worse for a more subdued quality than usual. We wish we could have more pictures of London from the same hand; some fine drawings might be made of the white churches with their velvety black shadows as we see them in brilliant sunshine down the long perspective of the Strand. Another artist, Barry Pittar, has essayed a good Strand view looking towards the Law Courts (91); it is in grey tones and brings out the quality of Street's tower and Sir Arthur Blomfield's bank, but if it had captured the plane values definitely it might have reached a very high quality. Architects will appreciate a charming little sketch of "An Old Barn, Newbury" (236), by Murray Urquhart; it is daintily drawn in pencil with slight colour washes and surpasses in value many of the more ambitious, highly-finished works. Mr. E. A. Cox is an able decorative painter, and he shows a fine panel entitled "Autumn Tints" (207), though it seems a little removed from the bounds of actuality. We should like to think that good decorative pictures like "Twilight, Cumberland" (241), by Fred F. Foottet, with its impressive purple tones, are finding homes in places where their fine qualities will be appreciated and appropriate. Of the more important pictures, one of the most impressive is "The Groom" (203), by Orlando Greenwood. There is a telling quality of colour and design in this bold canvas which is dominated by the head and neck of the great black horse. There is much to hold attention in this gallery the President's able painting of "Orchids" (199); some clever portraits (215, 211, and 208) the vigorous "Rochester" (216), by A. H. Elphinstone; "Berkshire Landscape" (198), by Murray Urquhart; and "A Havy Morning" (166), by Constance Bradshaw, should not be overlooked. We are always glad to see good summarized versions of landscape effects such as "Winter's Sleep" (127), by Paul Brinson; a well-drawn picture like this of a winding stream between willows should be translated into wood inlay, glazing, and mosaic.



Shop Front, No. 33, Bond Street, MR. E. VINCENT HARRIS, F.R.I.B.A., Architect. (*See p.* 636.)

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ILLUSTRATIONS.

Shop Fronts.

We illustrate this week two shop fronts designed by Mr. E. Vincent Harris, F.R.I.B.A., of 29, St. James's-square, S.W.1.

The fish shop at No. 78A, Brompton-road, was built by Messrs. Holland & Hannen and Cubitts, Ltd. The cast-iron panels were modelled by Mr. George Alexander, of 1, Justice-walk Studios, Chelsea, and among the sub-contractors were Messrs. Strode & Co., for the metal shop front, and Messrs. Anselm Odling for the marble work.

Messrs. Henry Boot & Sons, Ltd., were the general contractors for the premises at No. 33, Bond-street; the metal shop front was carried out by Messrs. Strode & Co., Ltd., the marble work by Messrs. Anselm Odling, and the modelling of the bronze work by Mr. George Alexander.

War Memorial Screen.

The war memorial screen at St. Nicholas' Church, Wallasey, is of oak, and supersedes a pitch-pine screen of a comparatively plain character. The four pictures, in tempera, were painted by Mr. James Clark, R.I., and form an interesting feature embodying the ideas of "Enlistment," "War," "Death," and "Victory." The names of the men of the parish who fell are recorded on the two bronze tablets in vitreous enamel lettering; these were made by Messrs. C. Smith, Sons & Co., of Birmingham. The three niches over the doors contain figures emblematising "Victory" and "Hope," with "Peace" in the centre, and surmounting them on either side are guardian angels. The whole of the oak work was carried out by Messrs. R. Bridgeman & Sons, Lichfield. The total cost, including the four pictures, was about £1,300.

Messrs. Minshull & Muspratt, of 6, Abbey-square, Chester, are the architects.

Laboratory Fittings at Loughborough College.

These fittings, now installed in a temporary building, are to be transferred to an extension of the permanent buildings when erected. Two cupboards are provided to each working space for the separate classes using the fittings, and drawers for test tubes within the cupboards cross the full width of the double benches. The larger drawers above are locked from within the cupboards by turn-buckles. The fittings generally are of Japanese oak wax polished, and the drainage is carried in channels under the floor with loose covers for access. Blackman's extract fans are provided for the removal of fumes from fume hood and fume chambers. The architect for the work is Mr. E. T. Allcock, A.R.I.B.A., of Loughborough, and the contractors were Messrs. Wm. Corah & Sons, of Loughborough.

The Picture House, Walsall.

This cinema has been erected in Bridge-street on a commanding site. The building comprises a theatre, seating 1,500 people; three cafés; and a tea terrace at the back of the circle. There is a shop on each side of the main entrance. The first-floor café is in Georgian style, the woodwork being executed by Messrs. Cooper & Sons, of Sunderland. The second-floor café is in Jacobean style, with rough plaster and adzed beams. Sand-faced bricks have been used for wall panels, hearths and fire-places. The woodwork of this café was executed by Messrs. Martyn, of Cheltenham. The fibrous plaster throughout the building was carried out by Messrs. Gaze and Messrs. Martyn; the casements are by Messrs. Hope and Messrs. Wainwright & Waring. The treatment of the theatre is in dark wood, marble columns, tapestries, &c.

Messrs. Percy L. Browne & Glover, of Newcastle-on-Tyne and London, are the architects: and Messrs. McLaughlin & Harvey, Ltd., of 24, Highbury-grove, London, the general contractors. The building was erected for the Associated Provincial Picture Houses, Ltd.

GLASGOW INSTITUTE OF ARCHITECTS.

Professional Registration.

THE first meeting of the Glasgow Institute of Architects for the present session was held last week, when Mr. William B. Whitie (President) delivered an address on "Recent Developments in Professional Affairs." Mr. P. Macgregor Chalmers, LL.D., presided.

Mr. Whitie said schemes for the reorganisation of the architectural profession which were now being evolved had for their principal objects the general advancement of architecture, and the increased efficiency of the service which members of the profession rendered to the public. Architects throughout the country would be invited to apply for membership of the Royal Institute of British Architects, which was and would remain the premier governing body for the profession. The ultimate aim of the scheme for reorganisation and unification of the profession was statutory registration. Parliament would be asked to grant powers under which only those who were qualified and registered would be permitted to use the designation of architect and to practise as such.

The lecturer also referred to the Oswald-street bridge scheme, which, he said, could be taken only as a makeshift and not as a solution of the cross-river traffic problem. On the other hand, the scheme which the Glasgow Institute of Architects had advocated for many years would give adequate means of communication, and at the same time provide a main artery for traffic from the city without encroaching on the central area.

MEETINGS.

FRIDAY, *November* 11.

London Society.—Mr. W. D. Carõe on "Old London Bridge." At 18, John-street, W.C.2. 5.30 p.m.

MONDAY, *November* 14.

Surveyors' Institution.—Presidential Address by Mr. J. H. Sabin. At 12, Gt. George-street, S.W.1. 8 p.m.

TUESDAY, *November* 15.

Architectural Association.—Library War Memorial to the fallen to be dedicated by the Rt. Hon. H. H. Asquith, M.P. At 34-35, Bedford-square, W.C.1. 3 p.m.

College of Estate Management.—Mr. E. M. Konstam on "Assessment and Taxation of Land." At 35, Lincoln's Inn Fields, W.C.2. 5.30 p.m.

WEDNESDAY, *November* 16.

King's College Public Lectures.—Professor P. Dearmer on "Gothic Art in the Fourteenth Century: Sienese Painting; Duccio, Simone the Lorenzetti." At King's College, W.C.2. 5.30 p.m.

Royal Society of Arts.—Mr. S. W. Lyon on "Modern Buildings in Cambridge and their Architecture." At 18, John-street, W.C.2. 4.30 p.m.

Associated Master Plumbers.—Annual Dinner. At Connaught Rooms, W.C.2. 6.45 p.m.

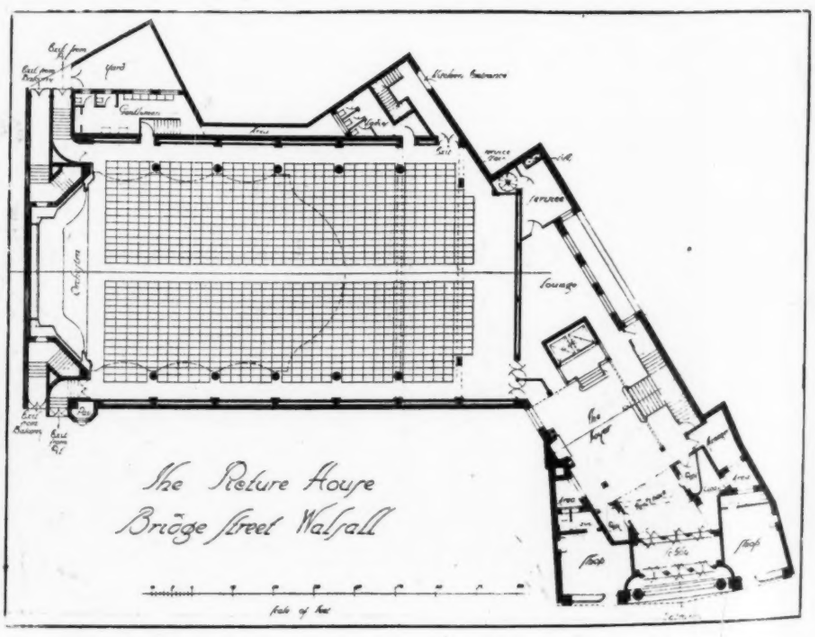
L.C.C. Central School of Arts and Crafts.—Sir Banister Fletcher on "Mediæval Architecture: Bridges, Castles and Palaces." At Southampton-road, W.C.1. 6 p.m.

Royal Academy of Arts.—Professor A. P. Laurie on "Mediæval Pigments and Mediums." At Burlington House, W.1. 4 p.m.

THURSDAY, *November* 17.

Architects' and Surveyors' Assistants' Professional Union.—Smoking Concert. At Carr's, Strand, W.C.2. 6.30 p.m.

Royal Academy of Arts.—Professor A. P. Laurie on "Modern Pigments: Their Proper Selection and Use." At Burlington House, W.1. 4 p.m.



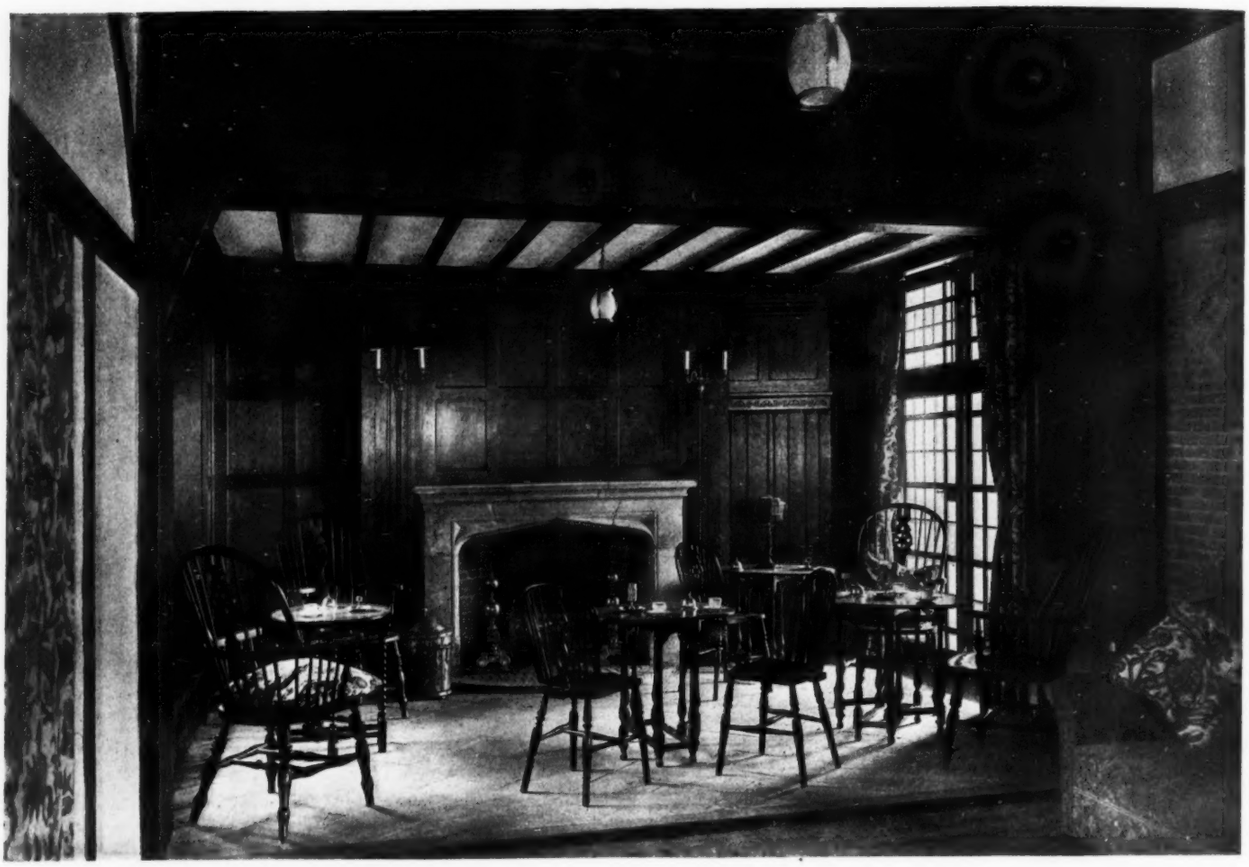
Walsall Picture House. MESSRS. PERCY L. BROWNE & GLOVER, Architects.

ENTRANCE FOYER.

FIRST FLOOR CAFÉ

Walsall Picture House.

MESSRS. PERCY L. BROWNE & GLOVER, Architects. (*See p.* 636.)



SECOND FLOOR CAFÉ.

Walsall Picture House.

MESSRS. PERCY L. BROWNE & GLOVER, Architects.

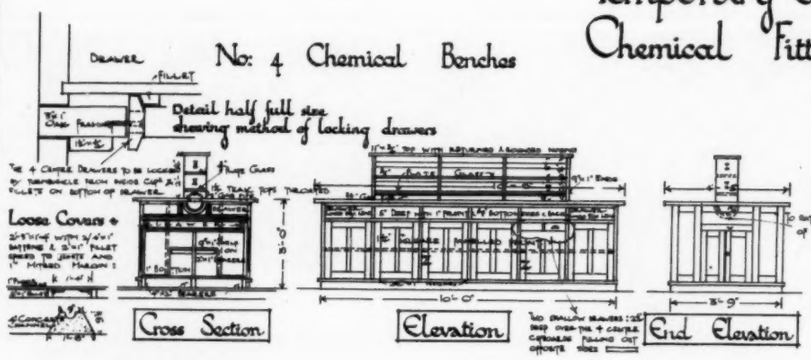
Detail of Doorway, 58A, Brompton-road.
MR. E. VINCENT HARRIS, F.R.I.B.A., Architect.

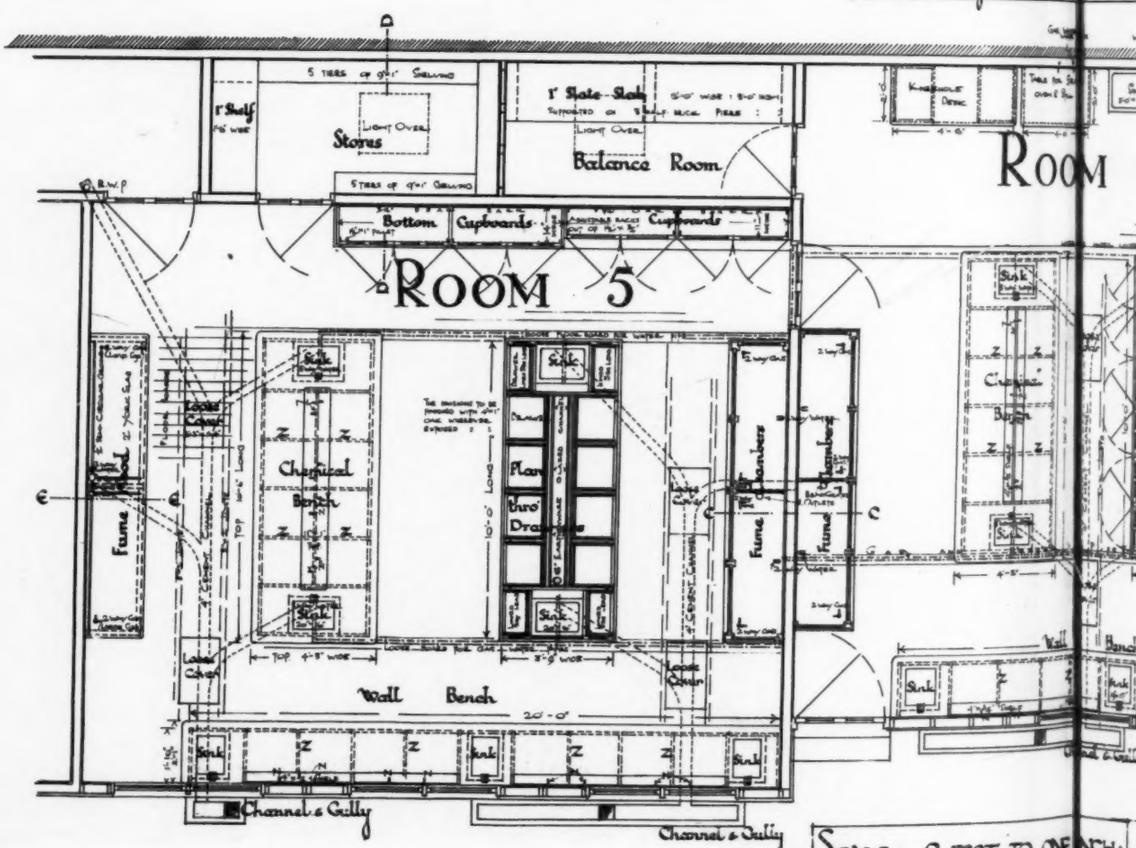
THE TECHNICAL COLLEGE

Temporary Class Rooms: Heathcote & Cu

Chemical Fittings in Class Rooms 5 and

No: 4 Chemical Benches



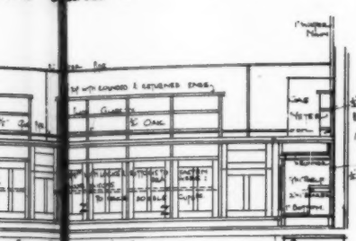


GE Loughborough:

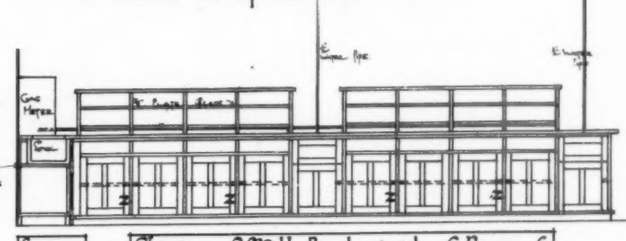
athcote Curzon Sts:

oms Stand 6

NOTE: The whole of the fittings to be in Japanese Oak where exposed. The Interiors to be in Red Deal and the bench tops to be in Teak (Moulmein or Rangoon): Divisions marked 'Z' are to be made removable (except portion under shelf) and fixed between two fillets at top and screwed to fillet at bottom: Gas and Water pipes taken over top of windows and dropped to the various points: 'N' denotes Gas tap and nozzle



Section A·A

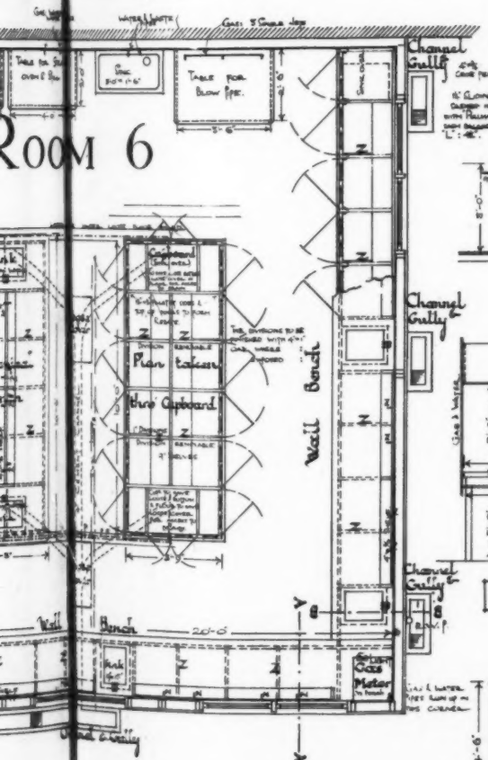


Section B·B

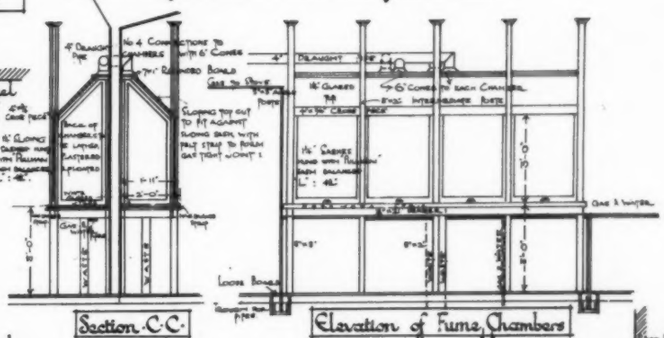
Elevation of Wall Bench at side of Room 6

nch in Ro 5 & 25'-0" long

Wall Bench at end of Room 6

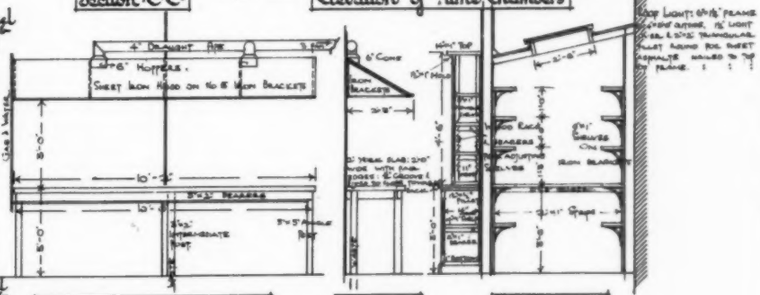


ROOM 6



Section C·C

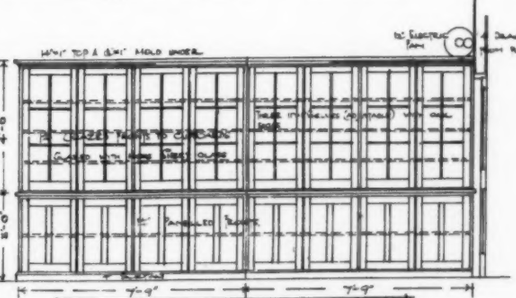
Elevation of Fume Chambers



Elevation of Fume Hood

Section E·E

Section D·D



Elevation of Cupboards in Room 5

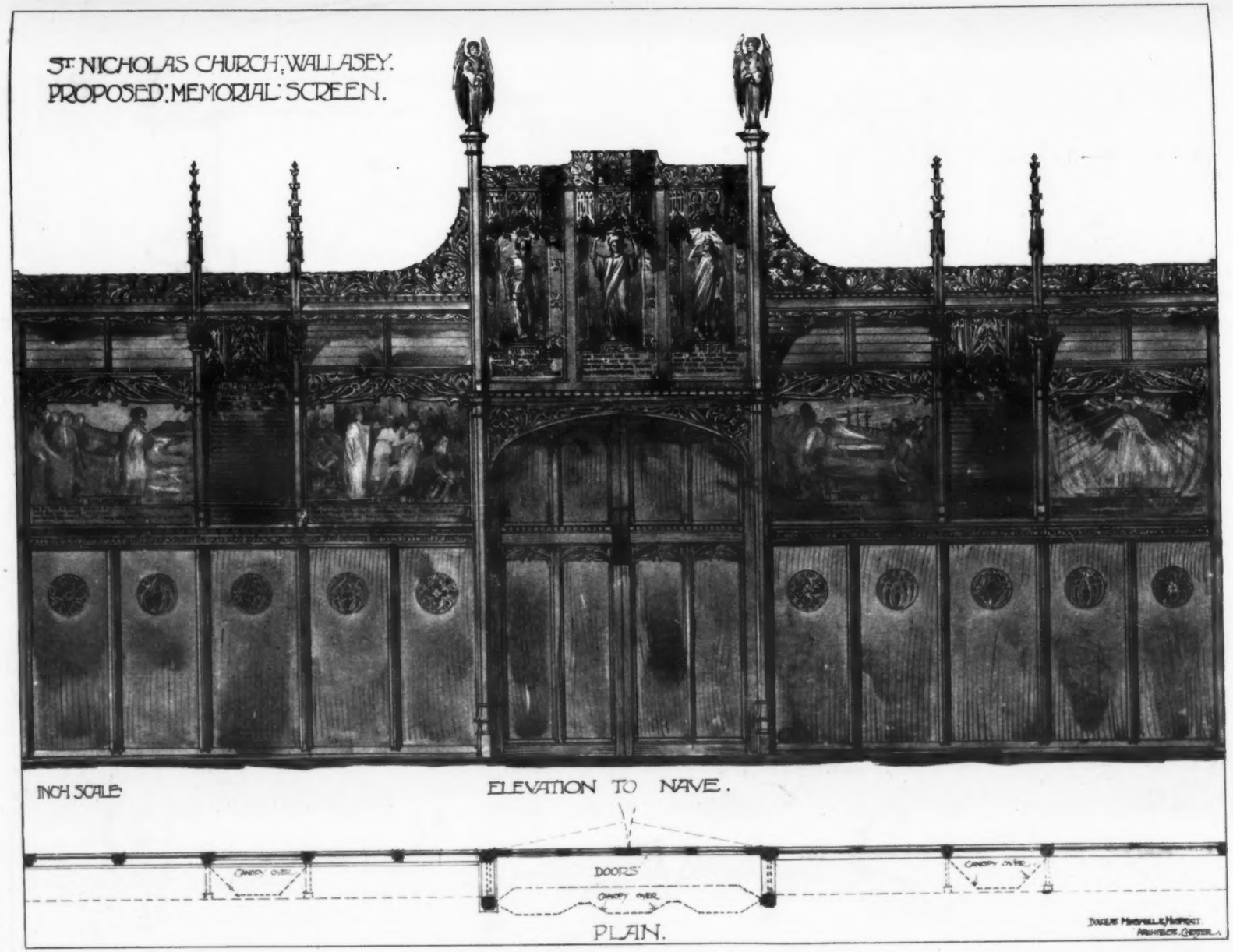
EDWARD T. ALLCOCK & A.R.I.B.A.
ARCHITECT
LOUGHBOROUGH

TO ONE INCH:

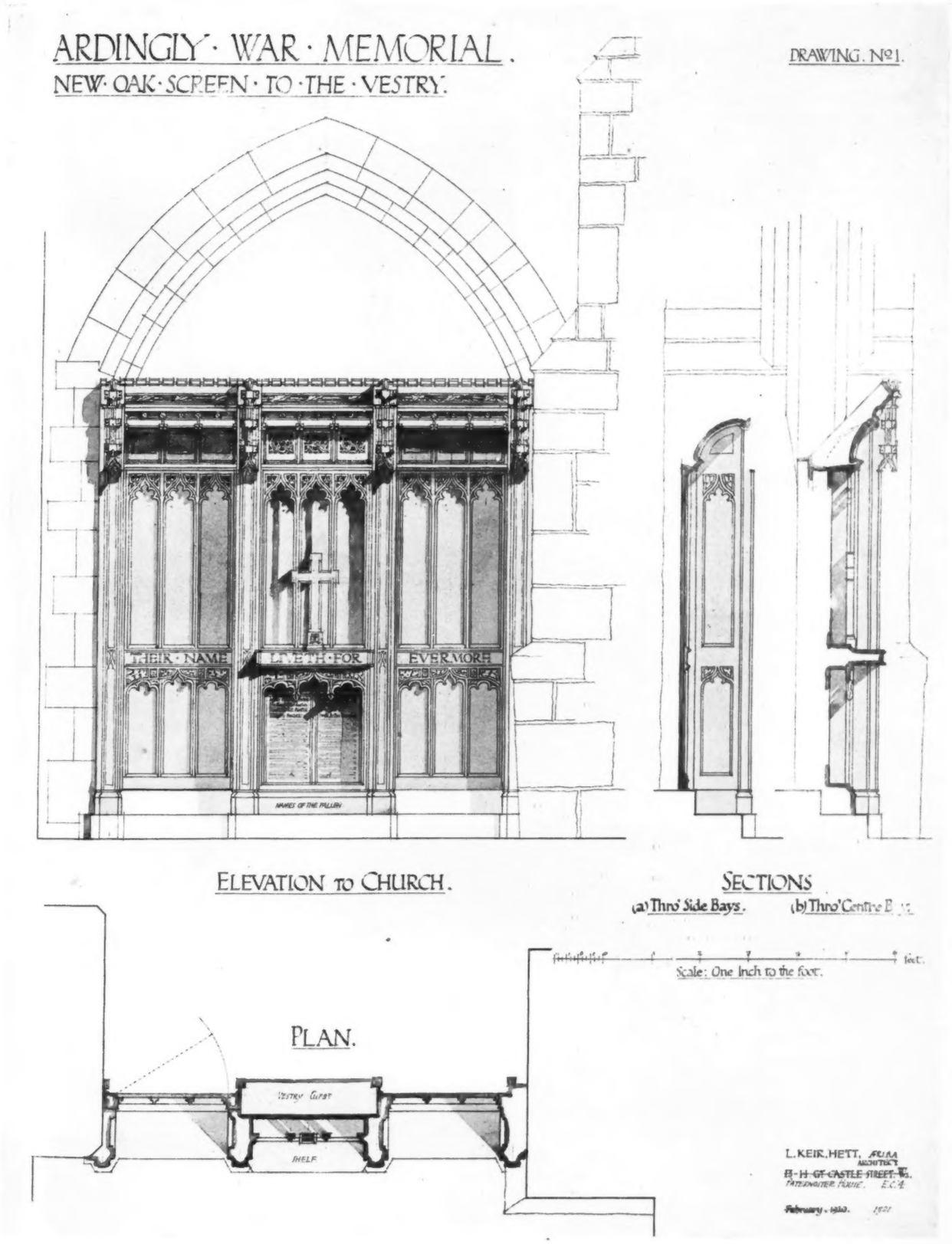
November 1919:

FISH SHOP, No. 58A, BROMPTON ROAD, S.W. MR. E. VINCENT HARRIS, F.R.I.B.A., ARCHITECT.

FISH SHOP, No. 58a, BROMPTON ROAD, S.W. MR. E. VINCENT HARRIS, F.R.I.B.A., ARCHITECT.

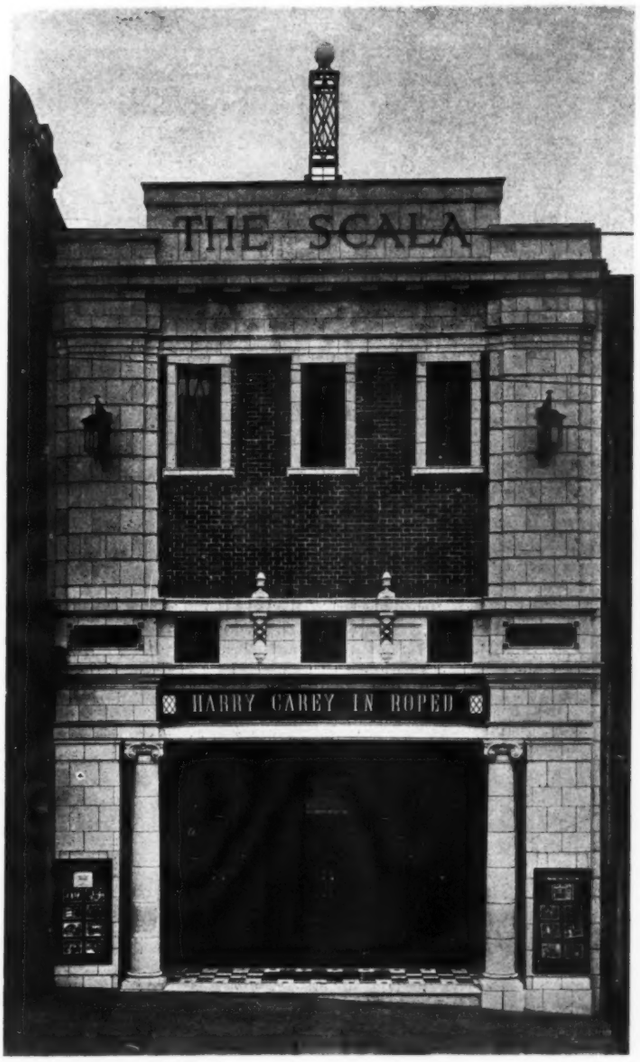


MESSRS. DOUGLAS MINSHULL & MUSPRATT, ARCHITECTS.



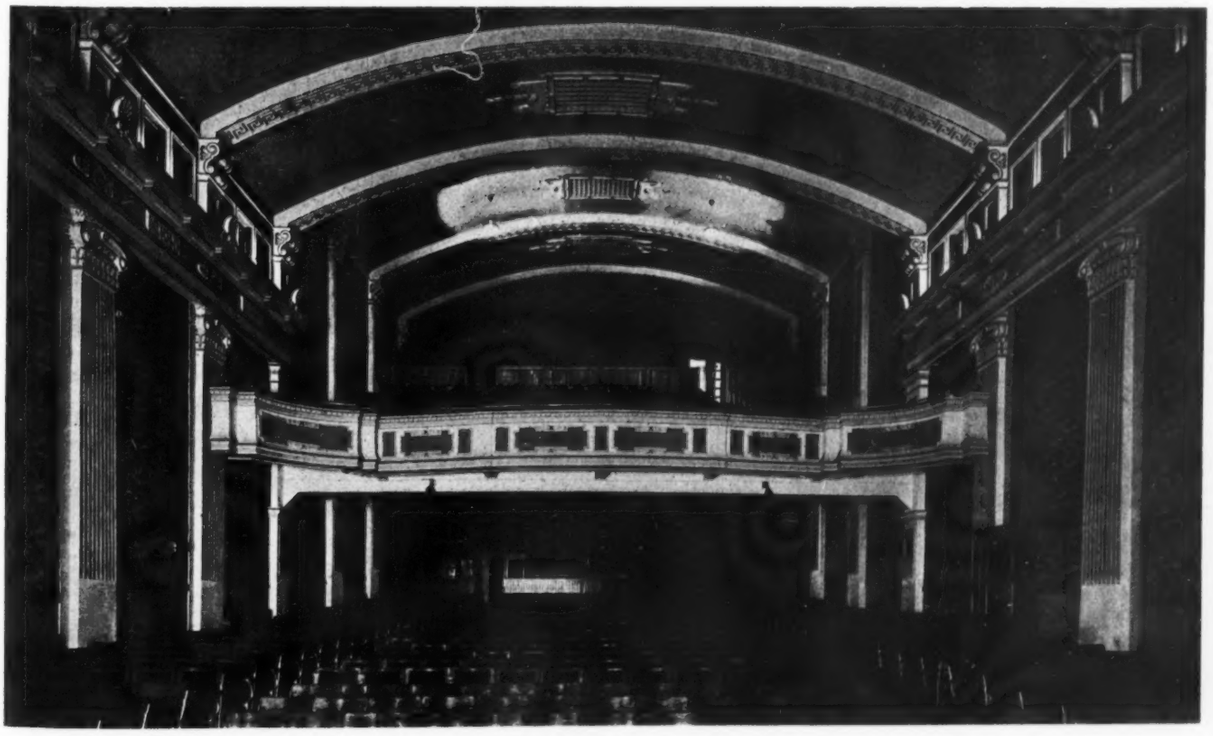
MR. L. KEIR HETT, F.R.I.B.A., Architect.

[This Sussex village memorial takes the form of an oak screen in the parish church, dividing the north aisle from the vestry. The necessity for providing a doorway suggested the tripartite design. The central bay, including the cross and the 29 names of the fallen, is given greater prominence by reducing the coved cornice, bringing the Cross into relief and causing a shadow to be cast on to the panelling some 5 in. behind. A shelf carrying the Cross of Sacrifice is arranged for flowers. The screen, designed by Mr. L. Keir Hett, F.R.I.B.A., of Paternoster House, E.C. 4, has been conceived in keeping with the existing Perpendicular woodwork of the ancient church, and the oak of which it has been constructed has long been in the village. The work was carried out by Mr. E. H. Munnion and local craftsmen.]

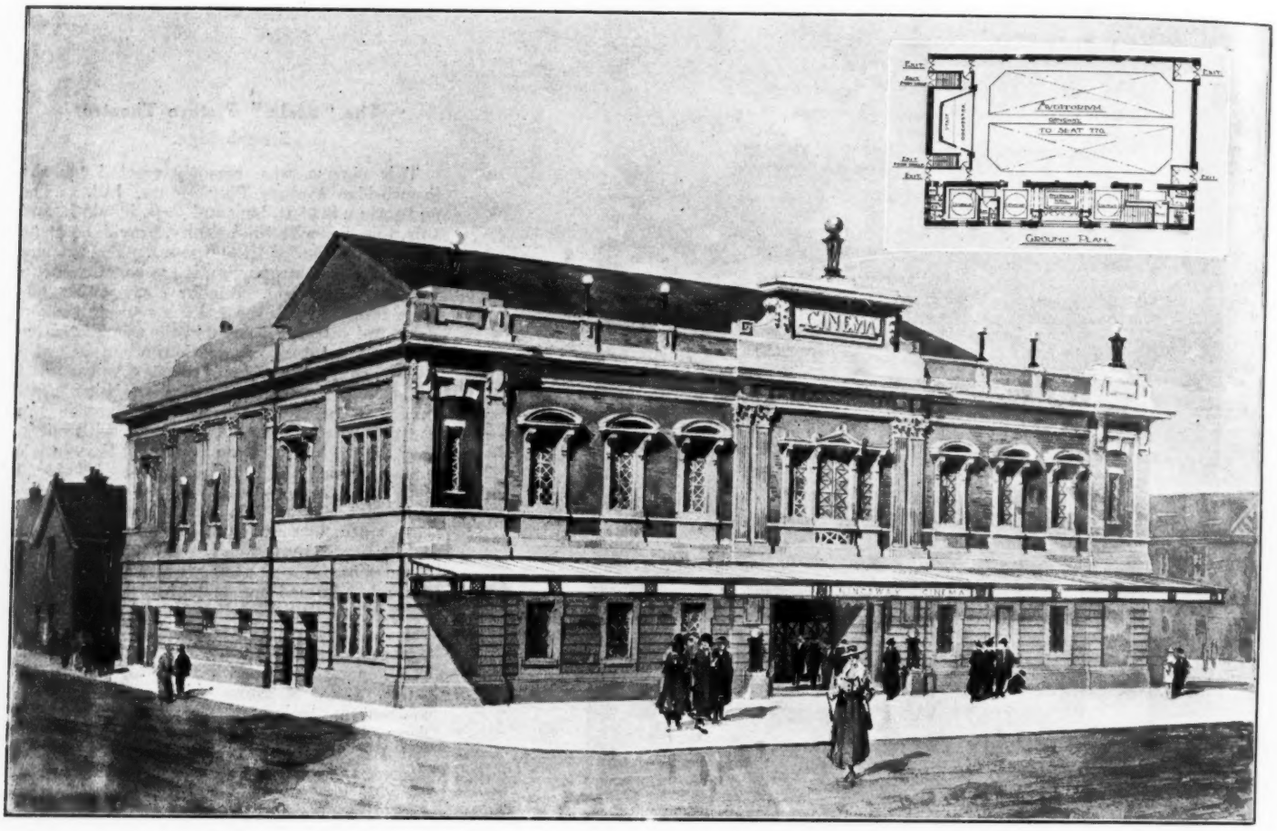


The "Scala" Picture Theatre, Stourbridge.

This cinema was recently erected for the Stourbridge Picture Play House, Ltd. The auditorium is 94 ft. long and 45 ft. in width, and this, together with the balcony, provides seating accommodation for 1,100 persons. The balcony and stanchion supporting it are constructed in reinforced concrete. Similar construction has been adopted in all the staircases and in the flat roofs and suspended floors in the administrative block. The interior decorations are of a Classic nature, consisting of fluted pilasters surmounted by entablature, clerestory windows being introduced to provide natural lighting. The top member of the cornice is provided with coved weathering, in which are concealed the electric lamps forming the principal source of artificial lighting. The proportions of the pilasters are somewhat distorted in the illustration, due, apparently, to a wide-angle camera lens. The ventilation is by means of extract fans fixed in dormers in the roof, access to which is obtained through a framed and matchboarded duct 6 ft. by 3 ft. running the full length of the building. The front elevation is executed in Hathernware terra-cotta and 2 in. Titford brindled bricks. The general contractors were Messrs. A. H. Guest, Ltd., of Stourbridge, and the sub-contractors include: The Hathern Station Terra Cotta Co. ("Hathernware"), the Rookfast Artificial Stone Co. (fibrous plaster), Ducatt Heating Co. (heating), Stott & Co. (ventilation), W. W. Turner & Co. (seating), Acme Flooring Co. (block flooring), Porcelain Tile Co. (paving), G. Turnock & Co. (electrical). The architect is Mr. Joseph Lawden, of 47, Temple-row, Birmingham.

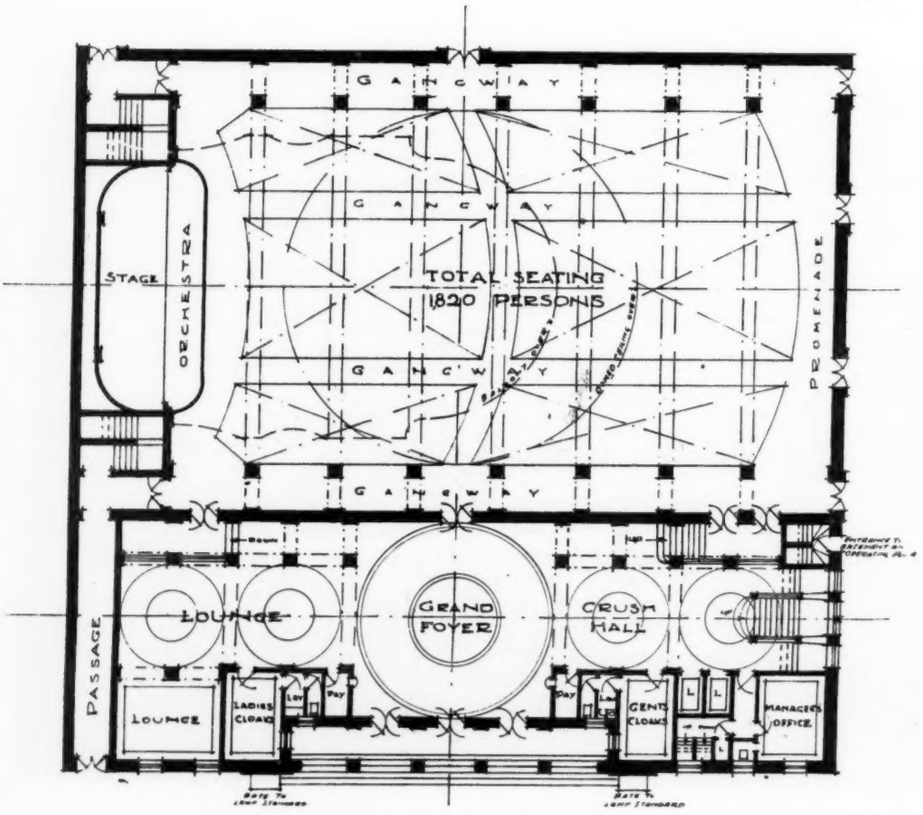


The "Scala" Picture Theatre, Stourbridge. MR. JOSEPH LAWDEN, Architect.



New Picture House, Waterloo. MR. GEORGE E. TONGE, Lic.R.I.B.A., Architect.

[This cinema has been designed to accommodate nearly 1,200 people, at a cost of approximately £30,000. A wide staircase leading to the circle is approached through a spacious lounge, which is entered from the entrance hall. The front will be faced with terra-cotta up to the verandah, and with brick and terra-cotta above.]



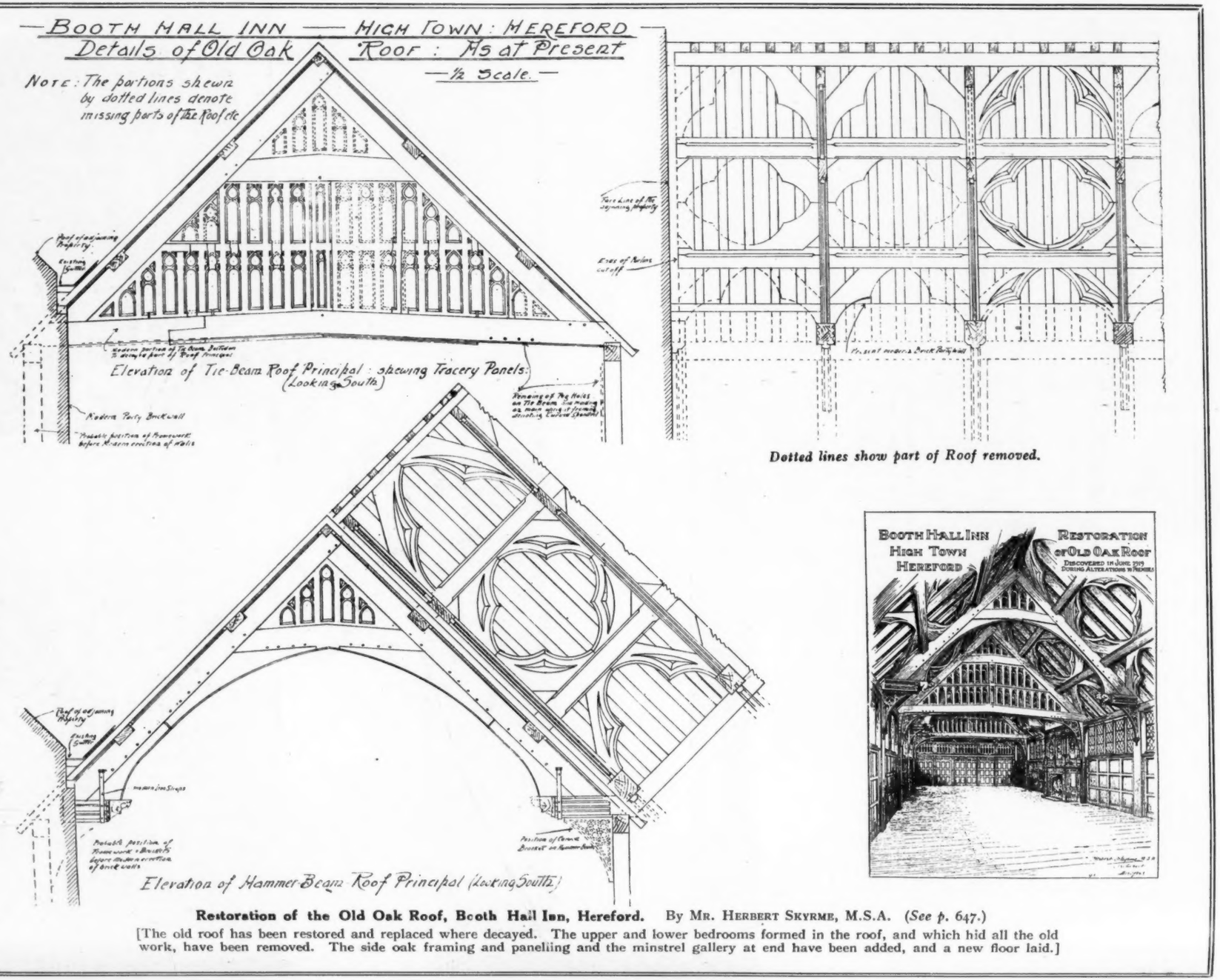
The "Scala" Cinema, Southport. MR. GEORGE E. TONGE, Lic.R.I.B.A., Architect.

[This building has been built at a cost of £100,000 in Lord-street, Southport. The front façade is executed in stone from the Stokehall quarries, Yorkshire. The building comprises a foyer, in the Egyptian style, with marble steps and wall fountain, restaurant and café on the first floor, and a ball room on the upper floor. The cinema accommodates nearly 2,000 persons, and contains the latest appliances and equipment. Passenger elevators are installed. The architect is Mr. George F. Tonge. Lic.R.I.B.A., of Southport. A feature of the building is the system of heating and ventilating.]

EXTERIOR.

INTERIOR.

The "Scala" Cinema, Southport. MR. GEORGE E. TONGE, Lic.R.I.B.A., Architect. (*See p.* 644.)


BOOTH HALL INN — HIGH TOWN: HEREFORD
Details of Old Oak Roof: As at Present
½ Scale.
NOTE: The portions shewn by dotted lines denote missing parts of the Roof etc
Elevation of Tie-Beam Roof Principal: shewing Tracery Panels: (Looking South)
Modern Party Brickwall
Dotted lines show part of Roof removed.
Elevation of Hammer-Beam Roof Principal (Looking South)

Restoration of the Old Oak Roof, Booth Hall Inn, Hereford. By MR. HERBERT SKYRME, M.S.A. (*See p.* 647.)

[The old roof has been restored and replaced where decayed. The upper and lower bedrooms formed in the roof, and which hid all the old work, have been removed. The side oak framing and panelling and the minstrel gallery at end have been added, and a new floor laid.]

THE ANCIENT BOOTH HALL AT HEREFORD.

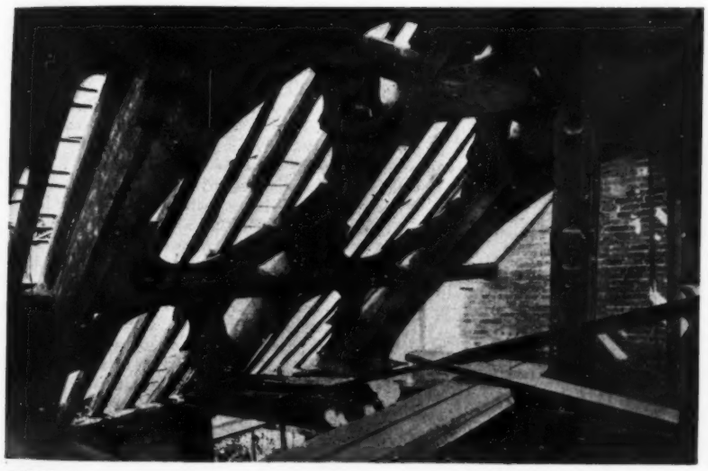
IT is not easy to realise the possibility of a large building of historic and civic importance remaining in existence and for all knowledge of its existence to be completely lost; yet this was the case with the ancient timber-built structure known as the Booth Hall, in the city of Hereford. There are a few books which refer to a Booth Hall having once existed somewhere about the discovered site, and some refer to it as being demolished.

The discovery took place while some repairs were being carried out to a modern chimney breast in the kitchen department at the end of the building, when the whole of the stack, which was placed against the adjoining property without any tie or support, totally collapsed, demolishing portions of the roof and bringing a mass of debris into the kitchen below. Its fall exposed to view some fine old oak beams and rafters, and on closer inspection portions of carved and moulded work were found.

Owing to its dilapidated and decayed condition it was considered to be past repair, and preparations were made for its removal. It was arranged to replace it with a modern deal structure, but a member of the Hereford Woolhope Club, a local society whose chief interest is to record and, if possible, preserve and restore the ancient works of the county, prevailed upon the owners (Messrs. Arnold Perrett & Co., brewers, of Wickwar) to restore the building, and thanks are due to them for the preservation of this beautiful roof to lovers of ancient work.

PORTION OF CUSPED PANELS TO BEAM PRINCIPALS, BEFORE REMOVAL FOR RESTORATION.

On further examination, and after the partitions and ceilings of the old attic bedrooms which were formed in the upper part of the roof were removed, three fine hammer-beam principals and two tie-beam principals were discovered, the hammer-beams having carved brackets with figure heads, and the tie-beam principals with panelled king posts containing beautiful tracery panels. Cusped wind-braces between the principals decorate and strengthen the structure.



WINDBRACES AND KING POST TO ROOF PRINCIPALS, BEFORE REMOVAL FOR RESTORATION.

The sides of the building contained a small portion of half-timber oak framing in a very decayed condition. The structure undoubtedly stood exposed on the four sides, similar to the old market halls, &c., which once existed, but owing to the encroachments of the modern brick building which abutted against the structure on its three sides the greater portion of its main framing had been removed, and only a few uprights remained, which were filled in with bricks. As far as possible this was preserved, and similar timber has been used; the positions of the windows were found, and mullioned windows of a similar character have been placed in the openings.

A fireplace with oak mantelpiece has been inserted, and everything has been done to preserve its ancient features and to make the building of some use, with the result that a fine room, 42 ft. by 27 ft., which represents the full space of the discovered portion, has been retained, and its use to the hotel, of which it now forms part, is open to the public, and will prove to be one of the most interesting features of Hereford.

Local antiquarians state that in the reign of Richard II a licence was granted the Chief Bailiff of the city and others to purchase the Booth Hall tenement and site for a municipal building and court. Subsequently the place was used as a house of detention. In 1565 it served as a hall for Welsh traders, and thereafter as headquarters of the Mercers' Company.

The earliest mention of the hall appears to be that in February, 1393, King Richard II granted a licence to the Mayor and commonalty of the city to acquire the messuage belonging to Thomas Chippenham and two others because they had no house in which sessions of justice could be held. A grant of the same premises in the previous year, September, 1392, from Henry Cachepolle to the same Thomas Chippenham and two others described it as the "Tenement called Boothehalle," and there thus appears to be little doubt that the Mayor and citizens purchased a hall ready-built. The very early architectural style of the woodwork (early fourteenth century) makes it probable that the present remains date from 1392.

The work of restoration has been carried out under the superintendence of Mr. Herbert Skyrme, M.S.A., of Hereford, a member of the Woolhope Club, who gave his services gratuitously. Messrs. Collins & Godfrey, of Tewkesbury, carried out the roof work; and Messrs. Martyn, Ltd., of Cheltenham, the panelling, fireplace, &c.

TIE BEAM AND HAMMER BEAM PRINCIPALS AND PORTION OF SIDE FRAMING, BEFORE REMOVAL FOR RESTORATION.

CARVING TO PORTION OF HAMMER BEAM ROOF PRINCIPALS, BEFORE REMOVAL FOR RESTORATION.

Restoration of Old Oak Roof, Booth Hall, Hereford. By MR. HERBERT SKYRME, M.S.A.

THE WORK OF REBUILDING IN BELGIUM.

BY EWART G. CULPIN.

IT will be remembered that when the armies of the Kaiser overran Belgium, and thousands of refugees flocked to this country to escape the menace of the invader, it was found that among our guests were large numbers of architects, surveyors, and engineers of all stations of life and of all ages. Many of them were quickly absorbed into the Belgian Army, and others were soon at work in one or the other administrative department, but a great many professional men were left, who, divorced from their practice amid an alien if hospitable and sympathetic people, found life somewhat burdensome. It was then that the Garden Cities and Town Planning Association and the Town Planning Institute both conceived plans whereby our visitors could be helped and instructed during their stay here, and especially that those of them who desired it might be taught the rudiments of the principles of town planning and modern housing, as practised in this country, which should be of value to them when the time came to start the work of rebuilding.

The proposal was warmly received by the Belgians themselves, and was supported by the Belgian Government, Monsieur Helleputte, the Minister for Public Works, taking a special interest in the scheme. English architects responded well, many of them entertained Belgian architects and their families, and at one time over 350 Belgian visitors were registered as participants in the study work. Large conferences were held, especially one at the Guildhall, where representatives of several nations took part, and then followed regular meetings and lectures at University College and elsewhere.

Arising out of all this, Study Circles were formed which met twice a week. Visits were arranged to different parts of the country, different subjects were dealt with, and considerable interest was aroused. The Belgian architects did me the honour of electing me Honorary President of the Study Circles, and they had their own honorary officials. The Circles met regularly right up to the day of the Armistice. They discussed not only theoretical but practical points, and produced plans for reconstruction of various parts that were destroyed. Naturally, therefore, I have been very interested in the work of restoration which has been carried on. I have paid several visits since the Armistice to the devastated areas, and have been in close communication with those charged with the restoration work. A series of visits paid just recently has emphasised the value of the work of the Study Circles, to which so many members of the Town Planning Institute and the Garden Cities Association gave much time and thought.

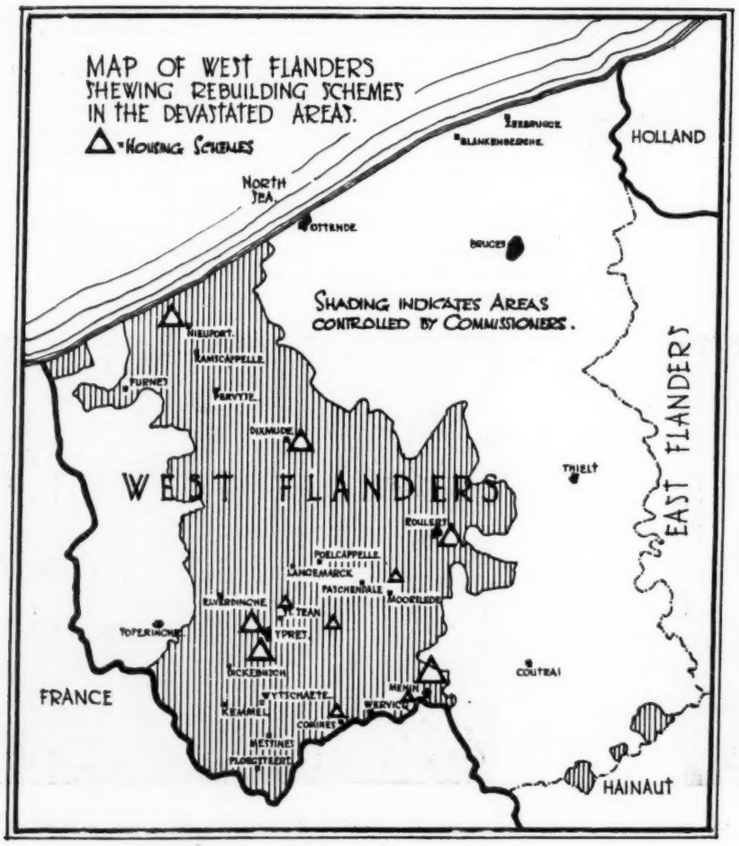
One very pleasing feature is the wholehearted acknowledgment given by the people one now meets of the value of the lessons they learnt in England. The results can, of course, be seen in the work achieved, but several of the architects engaged have told me they owe a considerable part of their inspiration to those days of enforced sojourn in England. We were all rather puzzled as to what would be the actual result of the Study Circles. We had doubtless been able to impress a large proportion of the visitors with the benefits of proper site planning and the grouping of houses, and they had been able to see practical examples, but would they be able to put these principles into practice?

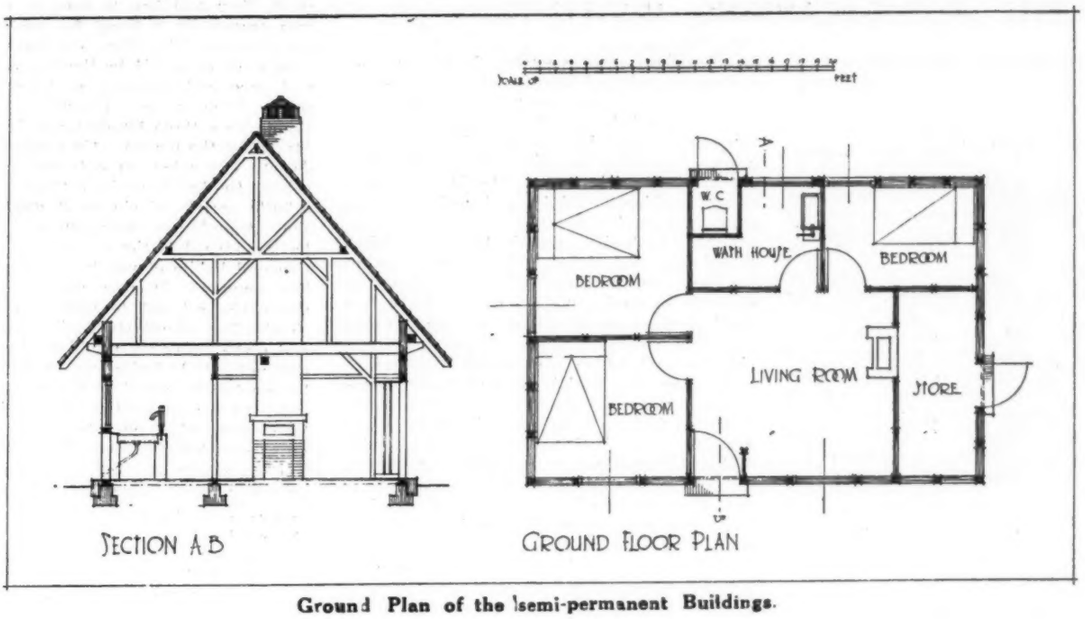
Thus, when the Armistice suddenly made this a practical problem the general opinion in Belgium was that the work must be left to the owners of the devastated premises, that they, together with the French proprietors, should be the only people to decide in what manner and at what moment reconstruction would be undertaken, and whether it would be identical with the old house or whether modern ideas of hygiene were to be followed and advantage taken of the progress of art and technical knowledge. It was held that the Government would simply come in to find money for the indemnification for war damages, and that each individual on receiving his own payment would do his best with the money. This was characteristic of the individualistic spirit of the Belgian population, and it is easy to perceive the difficulty that would arise of putting into practice in the destroyed areas the principles of grouping, site planning, and control in other directions which have been successful in England, and which certainly tend to the well-being of the community. The most that was hoped for by the average well-informed person was the imposition by the local authorities of certain rules relating to hygiene and some feeble attempts in the interest of traffic and of æsthetics; and certainly for some months after the Armistice it did not seem possible for anything to be done beside the adoption of certain cardinal town-planning principles according to the standard of the various local authorities. The great idea of garden cities, put forward by the Belgian Conference at the Guildhall in January, 1915, was felt to be impossible, and even the lesser project of garden suburbs, of houses built with strict architectural control and interdependent one upon the other for effect, was hardly to be thought of despite the fact that the forerunner of the garden suburb, the Beguinage, was a Flemish institution and was a common feature of Flemish life. Indeed, it is not too much to say that the Beguinage of Bruges has inspired many of the garden suburb squares of England. The idea of individual effort, however, had become such a feature of the life of Flanders that the most enthusiastic of my correspondents at that time thought they would have to give up any idea of concerted action in buildings; and the idea of street pictures, quiet "places," and simple houses reminiscent of the traditions of the country would have to be abandoned in favour of the individual building of isolated dwellings.

But almost unconsciously and very slowly these very ideas began to take shape, and there was a gradual realisation that reconstruction could not be put entirely into the hands of the private owner. This feeling was intensified by the fact that as in all other European countries, the price of raw materials and of manual labour rose to undreamt-of heights, and on the other hand reconstruction of any certain house upon its exact site was fraught with unforeseen difficulties.

Before the work of reconstructing the destroyed cities could be taken in hand all the debris and all the implements of warfare had to be removed. Those who have seen the way in which some of the towns were fortified, so that every cellar became almost a fortress, and where (as was the case, for example, at Nieuport) the whole town could be traversed underground through the connecting-up of the cellars, will easily understand the difficulties which had to be overcome. Besides this, there were any number of legal and administrative formalities to be observed. Questions of ownership and of actual site were not easily settled where all records had vanished, and it was no easy matter even to design the plans and have them approved by the local authorities in places where the population was still almost entirely absent and the municipal authorities dispersed. Questions arose as to straightening and widening old streets, of the exchange of property for this purpose, and the allotting of areas for building purposes, and another thing which led to the holding up of many proposals was the fact that although the Belgian Government was perfectly willing to pay all the victims of devastation it was not in a position immediately to do so. Several hundred thousand claims were made at once, and each one of these had to be minutely investigated.

In consequence of all these difficulties, at the end of the year 1919, with all the goodwill in the world, only very few reconstructions—nothing in proportion to the needs of the country—have been undertaken. Public opinion





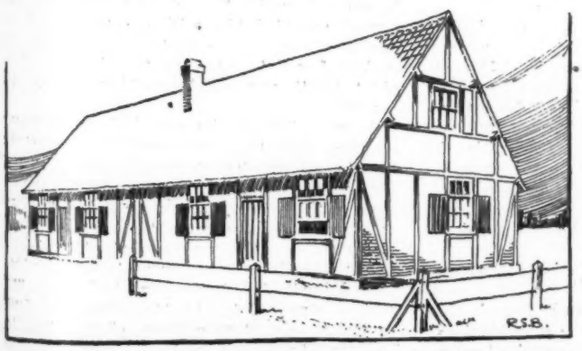
Ground Plan of the Semi-permanent Buildings.

was naturally getting excited, and it was evident that something must be done to deal with the exigencies of the situation, rapidly becoming worse as more and more people returned to their homes. Attention was then concentrated upon the provision of temporary housing, and the organisation known as "Le Fonds de Roi Albert," which had been established during the war, received new powers and money to give assistance in the most pressing cases. Money was provided by the Government, and here and there in different parts of the devastated regions, amid all the horrors of the evidence of cruel warfare, huts and barracks and shelters of all kinds were provided to afford a temporary refuge to those whose presence there was urgent and indispensable. It is unnecessary to deal at any length with the useful work accomplished by this fund. It had the effect of providing some 15,000 homes as a first step towards repatriating the refugees, but it was a first step only, and it was recognised that in the interests of the true economy of the country and the restoration of its homes and occupations the populations of the devastated regions must be furnished with comfortable dwellings and every facility for the working of the soil and the resumption of their normal occupations. Besides this, the wood used for these temporary buildings was not only very poor in quality but the price mounted so enormously that it began to be realised that it would not cost much more to erect permanent dwellings, and it was also felt that the quality of the timber was such that when permanent building commenced it was hardly good enough to be used in the houses.

I came across a striking example of the sort of building that was put up. A Senator in the Belgian Parliament, M. Bruneel, has been for years the Mayor of Kemmel, that beautifully wooded little village at the foot of Mont Kemmel, which saw some of the most tragic fighting of the whole war, and where alone 250 English cemeteries testify to the number of brave lads who died there. He was one of the active members of our Study Circles, and from time to time left England to visit Kemmel on municipal affairs and to visit his old castle, which at that time was the headquarters of the Guards. His château was an old moated house, surrounded by a mediæval village lost in the trees. When I visited it the other day there was an indication of the moat, a few heaps of stones, and the owner of the castle and the Mayor of the town lived in a hut which was not comparable with one of our good Army huts. And, to my mind, saddest of all the sad sights of destruction which met the eye in this area was that despite the fact that the village was formerly on the edge of the forest not a single living tree could be seen. The shrinkage of the timber and the warping and the twisting showed the straits to which the providers of temporary dwellings had been driven.

The futility of continuing temporary buildings was soon realised, and several plans were set on foot to improve the condition of things. It is first of all necessary, perhaps, to understand in what way the temporary building as well as all the other work of local government in the country has been carried on since the war. As I have hinted, in many districts the whole of the local government machinery disappeared, and it was necessary to establish some authority to deal with the matters that had to be attended to without delay. The Belgian Government, therefore, constituted six new regions, in each of which was appointed a Royal High Commissioner who was charged with the duty of acting in the place both of the provincial and the municipal authorities. It was an entirely new office, and new functions were given to the Commissioner. Although the provincial authorities still existed, it was felt easier to create new posts which would be free from the bureaucracy and the traditions of the past, and have a free hand to deal with the unprecedented emergency. The six Commissioners are, therefore, practically in the position of dictators, and with their eleven assistants exercise complete control over the areas assigned to them. For the work of reconstruction the Government has adopted some 200 towns and villages in the devastated areas, and all the expense of the government of these through the Commissioners is borne by the State. The accompanying map shows the area of the three Commissioners for Western Flanders, which included the line of battle. It also shows the "adopted" area, in which will be seen many names which have tragic memories for many English homes.

Much of the work done by the Commissioners is good, but, as might be expected in the cases where they have had to deal with housing, some of them were without experience and without ideas, and their work is of a very low order.



Semi-permanent Houses erected by the Building Department of the Office of the Devastated Regions at Menin.

Temporary Housing erected by the Commissioner. These cost more than the semi-permanent type.

Leeds and Yorkshire Architectural Society.

MR. NATHANIEL LLOYD, O.B.E., delivered one of his lectures on "Right Building" before the members of the Leeds and West Yorkshire Architectural Society on October 28. In this lecture he outlined some factors essential to good design, and illustrated these by forty or fifty lantern slides showing both right and wrong methods. He also showed a number of improved details applied to every-day work. The lecture was listened to with the closest attention, and Mr. Lloyd was afterwards thanked for his helpful and practical suggestions.

THE TOWN-PLANNING INSTITUTE.

PRESIDENTIAL ADDRESS.

THE first meeting of the session of the Town-Planning Institute was held on November 4 at 92, Victoria-street, S.W., by permission of the Institution of Municipal and County Engineers.

MR. R. A. REAY-NADIN, in the course of his Presidential address, said although the Institute was only seven-and-a-half years old it had attained a fame which was not limited to this country. It started in 1914 with a membership of 76, and in addition there were 26 honorary members and 11 associates. Now there were 259 members, 30 honorary members, and 41 associates, and there were also 3 students. The aims of the Institute were first and foremost to advance the study and science of town planning; second, to promote the sane development of towns and cities; and third, to further and encourage the interests of those engaged or concerned in town planning.

Were they doing that? He did not think anyone would say they were not. But had they made all the headway they could have wished? Taking everything into consideration, and remembering the unsettling circumstances which had existed, and unfortunately were still existing, since the inception of the Institute, the record of work done could not be considered otherwise than extremely satisfactory. Practical assistance to the town planner was undoubtedly rendered by the papers read and the discussions, and useful knowledge had been placed at the service of members. If they wished town planning to develop to the extent and in the direction they considered it should, then the more they got the general approval of the public the better. To that end a vigorous propaganda in the country was advisable, and the Institute through its members and by its actions must take a leading and active part.

The subject of housing and town planning must go hand in hand and be considered simultaneously, and he trusted that in all the housing schemes which had been or were being carried out the question of town planning had not been overlooked, and that all the building schemes had been considered and carried out on strictly town-planning lines. He urged wherever a suitable occasion offered itself the necessity for local authorities with populations of 20,000 and upwards at once bestirring themselves and seriously tackling the question of town planning. The 1st of January, 1923, would be here very soon, and such a vast and important subject as the town planning of a local authority's area must not be pushed off to the last minute. He was pleased with the regulations which had been issued recently, for if properly applied they marked a step in the right direction and did much to ease the task of the advisers to local authorities. It would be a great advantage to local authorities who had not on their official staff men who were town-planning experts to be able to consult and instruct members of the Institute who were recognised as authorities on the subject. The Council had recently considered and prepared a leaflet on the practice and scale of charges to be adopted by members, and this would no doubt prove of great service.

The Government was grappling with the unemployment problem, and had invited the co-operation of the local authorities, offering to put in hand works for the special purpose of finding employment on generous terms of financial assistance. In that connection, town planners, led by the Town-Planning Institute, could inaugurate a useful lead, and it was intended to devote the early part of the new session to the discussion of the best means of devising work for the unemployed which would fit in with and carry out the principles of town planning. Hastily devised and often ill-thought-out schemes for relief work, necessarily so because of the lack of time for due consideration, were wasteful both of money and energy. If public money had to be spent to alleviate distress that money should be wisely expended. As the tax-payer and the rate-payer would have to provide for the repayment of the necessary loans for many years to come, the money should be applied to work which would be of benefit not only to the present but to the future generation.

Every authority should have carefully-thought-out and duly-considered schemes for the improvement of their districts designed on true town-planning lines ready to be put in hand at any time of emergency, such as they were now passing through. They should provide for work which was capable of absorbing large quantities of labour, and which would not only prove a benefit to those who carried them out but to those who ultimately would have to pay. Such works, well and nobly designed, would prove a means of preserving the self-respect of those who carried them out—they would allow them to feel that they had contributed towards the betterment of their town or city, and earned the wages of honest and useful labour. He strongly recommended the Institute to take every step to give a useful lead.

Discussion.

MR. E. R. ABBOTT proposed a vote of thanks to the President, and said they ought to urge authorities with over 20,000 population to proceed with real town planning, and not with mere glorified housing schemes. At the present time a large number of local authorities looked on town planning as a sort of adjunct to a scheme for half-a-dozen houses. Compulsory town planning, if it were to be a success, would have to be carefully done by competent people. The Borough Engineer might in some cases be capable of doing it, but the mere fact that a man was an excellent Borough Engineer did not necessarily qualify him to carry out a large planning scheme. An expert should go in fresh and give a good conception, and the details might then be carried out by borough engineers.

PROFESSOR THOMAS ADAMS seconded the motion, and expressed the hope that an effort would be made to get Town Clerks interested in town planning. In America the manufacturers looked on town planning as a means of making the workmen more efficient, but they had not begun to look at it in that way in this country. The war had destroyed the idea that they did not live for posterity, and if they could give lives for posterity surely they could use a little science in the development of their towns for posterity.

The motion was carried with acclamation.

RURAL HOUSING.

AT the College of Estate Management, Sir Lawrence Weaver (Director-General, Land and Supplies Department, Ministry of Agriculture) delivered an address last week on the subject of rural housing, particularly with reference to the small holdings scheme.

After remarking that before the war it had been proved to be impossible to build an entirely satisfactory rural cottage for £150, he said the large majority of the people of this country lived in houses containing from three to six rooms, and the smaller the unit of accommodation the greater the difficulties in providing it in a seemly form and at a price which could be paid. The art of producing a good building consisted in balancing a certain number of very important considerations. They must have a sound building and one economically possible, at least that was what was being aimed at, although the conditions of the past three years had made that impossible. Having got a sound building planned and given it a reasonable texture, and having provided it with all the facilities which made for reasonable comfort in living in it, they still had to keep in mind that it was essentially a thing for use and not for appearance. Therefore, convenience of planning must obviously be the first consideration, and ease and economy in housework would result from proper planning. Above all things, in cottage building one had to aim at fitness for the person. He realised more from day to day what an extraordinarily difficult subject the building of a cottage was, what an infinite variety of shapes it might take, and the extraordinary variableness of the problem having regard to the difference in site, tradition and habits of people in different parts of the country. It was very important that those who set out to provide rural cottages should first of all study the local conditions and make sure they would produce something that not only looked pretty on paper but would be practically useful to the people who were going to live in it; the whole subject had to be approached in an atmosphere of common sense and human sympathy.

A matter of enormous importance to those who had to do with the management of estates was the economic basis upon which the whole of the building had to be done at the present time, and upon which it was likely to be done for some time. Until the economics of the situation could be brought into some relation to the possible expenditure of the private landowner there could be very few of these cottages built by private people unless they were prepared to spend a very large sum, what they might probably consider an undue amount, in providing amenities for the people who were residents or who wanted to be residents on their estates. But there was a sign of hopefulness. They found at the Ministry of Agriculture that the price of cottages had dropped in a year by something like £200 per cottage, and that a steady fall might be anticipated in the cost of building and labour, and a very rapid fall in the cost of materials. There was some hope that they were proceeding steadily in the direction of a kind of equilibrium between what people were prepared to pay for rent and the cost of the house. But that could not, and would not, apply to the house of the rural labourer who had been accustomed to spend not more than 3s. a week, and many of them were not spending more than 1s. 6d. or 2s. a week, in rent. It was unfortunate that when it determined what was the proportion of a man's wages which could be regarded as proper rent for a cottage provided for him and deducted from his standard wage, the Wages Board stereotyped the amount at 3s. per week. It was obvious that a cottage could not be produced at a rent of 3s. a week. Therefore it followed that the landowner who had to provide cottages for rural labourers must regard it merely as a piece of the large benevolence which really was wrapped up in the ownership of land to-day. While the cost was falling agricultural wages were also falling, and consequently the agricultural labourer was not likely in the future to be willing to pay more than he did in the past for the accommodation of his home. The difficulty was very often with the agricultural labourer himself, for even when the district council provided him with a cottage at 6s. a week, at enormous cost to the Treasury, he still preferred to live in a tumble-down, dilapidated cottage which he could get for 2s. 6d. a week.

A great deal had been said about the possibility of inventing new methods of construction to get over economic difficulties, even at the cost of some unpleasantness in the appearance of the cottage. He did not believe there was any material cheaper than the traditional materials in the various districts—brick in one, timber in another, even stone in another. The Ministry of Agriculture had made very wide experiments in the way of new materials, and its experience showed that the ordinary traditional method of building was always cheaper than any fancy sort of building.

DRY ROT IN WOOD.

UNDER the auspices of the Chadwick Trust, Professor Percy Groom, M.A., D.Sc. (Professor of the Technology of Woods and Fibres at the Imperial College of Science and Technology), delivered a lecture on Thursday, last week, at the Galleries of the Royal Institute of British Architects, entitled "Dry Rot in Wood and Sanitation." The chair was occupied by Mr. John Slater, F.R.I.B.A.

In the course of his paper, the lecturer said certain forms of decay of wood that were caused by wood-attacking fungi were included under the term of "dry rot" as applied to wood; damage done to wood by insects, which in that connection were popularly included under the name of "worm," was not dry rot. But the incompleteness of that definition was revealed when the situation or condition of the wood attacked was considered. Certain fungi attacked the wood of the standing tree. Some of these could live solely in and at the expense of the living part of the wood—namely, the sapwood—and were thus true parasites. But other species living in the growing tree could attack only the older and more central wood, which was often distinguishable as heart-wood, and was always dead; since these latter attacked solely dead substance, they could hardly be termed with full accuracy parasites. For the sake of brevity he referred to both classes of fungi growing on standing trees as parasites.

Opposed to these classes were others that fed solely upon dead wood of tree-stumps or of felled timber. Among these were many species causing decay in timber out of doors (in outhouses, posts, fences, bridges, paving, railway sleepers, dockyards, shipping, and coal-mines). Much fewer were the species that could cause dry rot indoors in warmed buildings, including houses.

The investigation of dry rot of timber was of importance from at least two points of view, in addition to its purely scientific significance. In the first place, from the directly economic standpoint, grave wastage and national loss were caused in this country by dry rot of timber, which itself was a material mainly imported from abroad. It had been estimated that in the U.S.A., if wood in use were adequately protected against decay, the annual saving would be 7,000,000,000 board feet of timber, and that half the wastage of timber in mines in the U.S.A. was due to decay and insects, but mainly to decay. The loss of timber due to decay in this country was certainly far from being as heavy as in the U.S.A., yet directly and indirectly it must amount annually in value to millions of pounds sterling. There was no doubt that dry rot in buildings would increase in this country in the future, for the following reasons:—

(1) The Scandinavian forests were being gradually depleted of the older trees, and an increasing percentage of vulnerable sapwood was being imported and used as building timber.

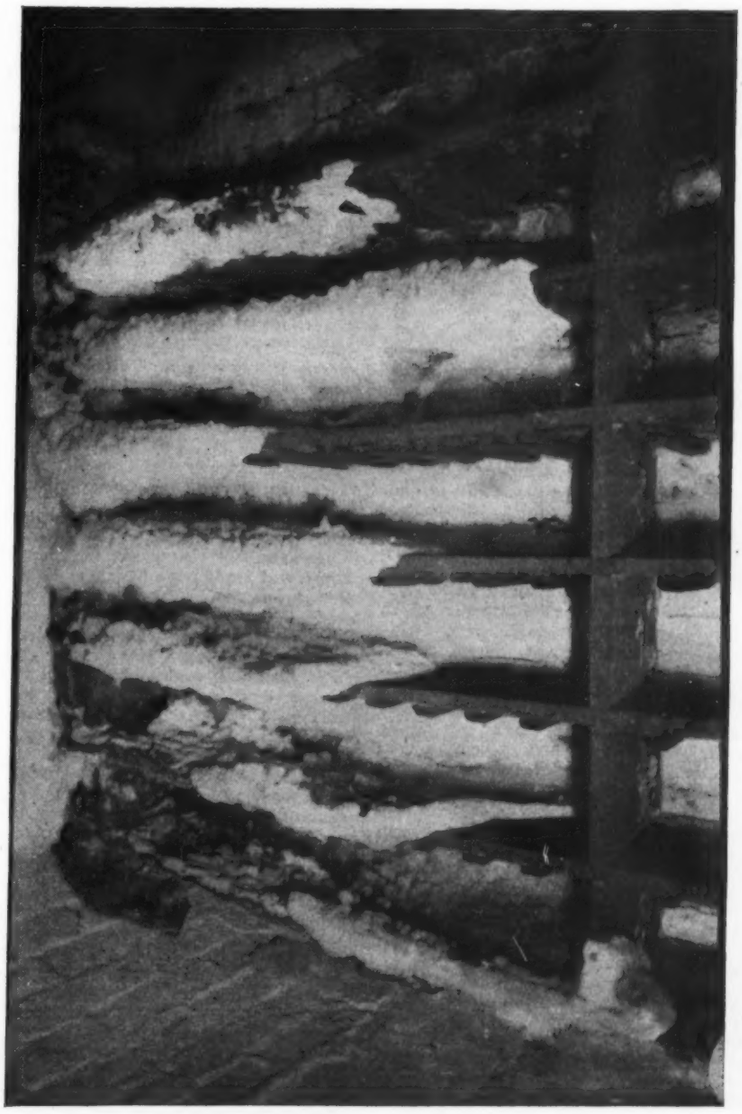
(2) In modern European forestry it was found that the optimum financial return was provided by felling softwoods approximately at an age of seventy years. Thus the European supply of large trees, with much heart-wood, appeared to be doomed to extinction; while the heart-wood supplies from America were more costly and were likewise dwindling.

Those two causes, involving increased use of a more perishable type of constructional timber, were often aggravated nowadays by greater negligence in the measures designed to protect wood from decay, for there appeared to be an increasing custom of using incompletely seasoned timber in the construction of houses, of affording it little protection during building, and little opportunity for drying before completion of the house.

Dry rot was caused by highly-organised fungi, visible to the naked eye and capable of being collected in mass for investigation. The fungi attacking heart-wood were assailing material containing no protein bodies, but largely composed of carbohydrates (substances allied to sugars). The heart-wood was dead and incapable of making any active vital response to the attack, yet it might show permanent immunity, or temporary non-susceptibility evoked by its conditions. In some cases the age attained by the wood in the standing tree often decided whether or not a given fungus could successfully attack it.

The fungi causing dry rot were composed of microscopically thin, hollow, jointed threads or tubes, known as hyphæ, which grew in length only at their ends and emitted branches. These hyphæ permeated and consumed the wood, and in certain species some of the hyphæ could produce outside the wood loose cotton-like masses, or by close interweaving could build up closer cushion-like or skin-like growths, or even long strings, by the aid of which they could spread over considerable areas. In addition, dry rot fungi all possessed elaborate fructification, or fruits, easily visible to the naked eye, and shaped like mats, brackets, or even mushrooms. In these were produced countless spores which were violently ejected, and were so light and microscopic that they could float in the air for days or weeks and were wafted about by the gentlest of air currents. One individual plant of *Merulius lacrymans*, which was responsible for the worst form of dry rot, could in a few minutes throw out a number of spores sufficient to wreck the wood-work of all the buildings in London within a few years. It had been calculated that one square metre of the fruit-surface when active ejected 500 million spores in ten minutes, and each spore was capable of producing a new individual that could run through a house. In addition to spores produced in such fruits the same fungi could produce, on their ordinary threads or hyphæ, infectious spores of another kind.

In a house fungi were always found, but only some of them did material damage to wood. indeed, some of them of considerable size were feeding upon material other than wood. For instance, species of mushroom-like fungi belonging to the genus *Coprinus* sometimes grew in cellars, but fed merely upon the organic matter in the soil. Fungi whose hyphæ lived inside wood varied greatly in their powers of attacking wood-substance itself. Very familiar was the so-called "blue sap" of red deal (pine-timber). This phenomenon was due to the presence of a filamentous fungus (*Ceratostomella Pini*) which could attack solely the sapwood of the pine, and fed largely on the starch (which was lacking from the heart-wood). It had so limited a power of attacking the wood itself that the timber affected by it was no weaker than if not infected. This "blue sap" was, from a practical standpoint, a useful indication that sapwood was present. Another case of a fungus present in wood without necessarily destroying the firmness of the timber was discovered at the Imperial College, and contrasted with the preceding case in that the fungus lived solely in the heart-wood. The heart-wood of ordinary English oak in the



Dry Rot: An example of *Merulius Lacrymans*.

standing tree was attacked by a fungus, which fed upon some contents but left the framework essentially intact, and actually enhanced the value of the timber. A different type of attack of wood was exhibited by some moulds, including the common "blue mould" (*Penicillium spp.*), which could very slowly eat away wood after previously having largely changed it into cellulose (of which cotton-wool, for instance, was mainly composed). The feeble nature of the attack on the wood in all these cases removed it from the category of dry rot.

Dry rot was caused solely by certain species of fungi that vigorously attacked wood-substance and eventually disintegrated it. From the point of view of their manner of growth these fungi could be ranged into two extreme classes. In species belonging to one class a spore reaching the wood sent into the interior of the wood hyphæ, which grew exclusively inside the wood, always keeping at some distance from the outside. In such cases the wood might show no external signs of its decayed condition, which was first revealed either by breakage or by the fructification that emerged to the outside. That type of attack, though more insidious than the next type, was slower and lent itself more easily to remedial measures, which consisted in the removal of the single piece of wood attacked and some accessory precautionary methods.

Much more serious and rapid were the attacks made by the other class of fungi, which not only sent their hyphæ into the wood through which they spread, but also extended rapidly over its surface. The hyphæ on the surface might form large snowy cushions, thin skins, or long strings, any of which could give off hyphæ that penetrated the wood. Dry rot fungi of that type could push their skin-like or string-like growths over material that was not wood—namely, over bricks, stones, iron, linoleum—and thus could reach distant pieces of wood. Belonging to this type was the fungus causing the worst form of dry rot in houses, *Merulius*, whose string-like growths were sometimes as thick as a lead pencil, travelled yards, say, inside tubes containing bell-wires, and could ascend from story to story along the walls, and could even penetrate walls, making their way through the mortar. Besides producing countless spores in its rust-coloured fructifications, *Merulius lacrymans* could make spores of another kind on its ordinary hyphæ; these arose merely by the hyphæ breaking up into short joints, each of which was a spore

Other fungi showing the same method o attack as *Merulius lacrymans*, as regards the production of strings and so forth outside the wood, were *Polyporus vaporarius* and *Coniophora cerebella*, both of which caused dry rot in houses. These three different kinds of fungi could be distinguished from one another by their fruits. Contrasting with the rust-coloured fruit of *Merulius*, with its meandering furrows and ridges, was the white one of *Polyporus*, which showed regular and definite pores. Differing from both these was *Coniphora*, whose brownish or olive-brown fruit revealed a surface that was raised into numerous little pimple-like lumps.

The accurate identification of the various fungi causing dry rot in buildings was vitally important, because the different species differed as regarded their conditions of growth and activity, and consequently required different methods of prevention or eradication. Fungi causing dry rot grew actively only within certain limits of temperature, which so far as modern evidence went were characteristic of the species. For instance, under certain cultural conditions, the following had been found to be the rates of growth in length of mycelia of *Merulius lacrymans* (*domesticus*) and *Polyporus vaporarius*, at different temperatures. The figures recorded the growth in millimetres per day.

Temperature, Centigrade.	*Merulius lacrymans* (*domesticus*).	*Polyporus vaporarius*.
5	1.3	0.32
10	2.4	1.25
14	4.0	2.40
18	5.55	4.05
22	6.0	5.10
26	0	5.90

These figures went to prove:—

(1) That *Merulius lacrymans* could not grow at a temperature of 27 deg. C. or above. Thus it would appear that it could not grow in the blood of human beings and thus cause disease in man.

(2) That *Merulius lacrymans* did not occur in the tropics.

(3) That species of fungi much alike in their appearance and work could be distinguished from one another where no fruits were present by determinations of their rate of growth in relation to temperature, and especially of the maximum temperature at which growth was possible.

The figures gave some idea of the rate at which dry rot could advance over wood; *Merulius* about 7 ft. a year. Lowness of temperature in the Arctic regions, and highness in most tropical regions, accounted for the prolonged preservation of wood in the former and its rapid decay in the latter. The sterilising effect of high temperatures was well known, and it might be stated that the hyphæ of *Merulius lacrymans* were rapidly killed by exposure to dry or moist heat at a temperature of less than 40 deg. C. (killed in three hours at a temperature of 38 deg. C.), so that infected wood artificially seasoned at that temperature would appear to be sterilised—but future research was required to ascertain if that temperature sufficed to kill any accessory spores that might be produced inside the timber. Cold did not readily destroy *Merulius*, as cases on record showed that fruits exposed out of doors throughout cold Russian winters to frost and snow had survived; moreover, that fungus produced fructifications in ice-cellars.

Oxygen, and therefore, in practice, atmospheric air, was needed by all fungi known to cause dry rot. If air were excluded from wood it could not undergo dry rot. The consequence was that beech timber, which perished in three years out of doors, would remain sound for many years under water. Accordingly, some timbers were stored under water until required for use. The oxygen of the air was needed for respiration; the fungus took in oygxen and gave out carbon dioxide and water. As wood was the food-material, the process could be regarded as approximately one of the oxidation of wood. Adopting the empirical formula for wood given below, it became evident that in respiration *Merulius lacrymans*, for instance, could produce water weighing more than half as much as the original wood—for 1,018 parts of wood yielded 594 parts of water by weight.

Wood	+ Oxygen	Water	+ Carbonic acid
$C_{42}H_{66}O_{28}$	+ 89 O =	33 H_2O	+ 42 CO_2
(1,018)		(594)	

It was that water of respiration that was responsible for the drops that could be seen hanging on to the hyphæ of the *Merulius lacrymans*, and for the specific name of "weeping"; this water could render the wood soaking wet. *Polyporus vaporarius* had the faculty of producing water by respiration, but to a smaller extent than *Merulius*. Thus, when in a house the decaying wood was more or less dry, or at least not distinctly wet, as it might be even when *Merulius* was attacking it, people spoke of as "dry rot." But when *Merulius*, for instance, had produced so much water as to render the wood soaking wet, it was often spoken of as "wet rot," but the fungus causing the decay might be the same in both cases. There were, however, other kinds of wood-attacking fungi that showed that water-producing character to no appreciable extent.

The importance of that character became evident when the relation of dry rot to water was considered. All fungi causing dry rot, at least in early life and usually throughout life, required supplies of water from the outside world; the wood must contain sufficient moisture if they were to grow. Many familiar facts supplied evidence of that. In dry climates wood resisted decay indefinitely, as was illustrated by the Egyptian sarcophagi; again, beech wood made up into furniture and kept in dry rooms indefinitely resisted decay, while exposed to moisture out of doors it rotted in three years. Decay of wood in the moist hot air of the tropics, or of shallow British coal mines, was excessively rapid; the lack of decay in deep coal mines was due on the one hand to dryness of air, and on the other to the high temperature that excluded a number of species of wood-attacking fungi. All too familiar was the fact that the presence and progress of dry rot in buildings were favoured in damp unventilated spaces, such as were provided by the use of linoleum. The adequate seasoning of timber for use in buildings was imperative, as was its subsequent protection from liquid water or damp air, from which it could freely absorb water.

The amount of water required by different species of fungi causing dry rot in houses differed widely. At the one extreme were certain kinds which demanded thoroughly damp wood—among these was *Coniophora cerebella*, which was usually found in damp cellars, but which he had found under the roof of a building where water could reach the wood through a hole in the roof. Such species, however, if alone, readily lent themselves to eradication and prevention by drying the wood and securing good ventilation. At the opposite extreme was *Merulius lacrymans*, which, when once established, could manufacture water and thus attack the driest of wood. One could not rely upon eradicating *Merulius* by ventilation or temporary drying. When a fungus was living on or in wood, the effects of greater or less drying varied. In the case of *Merulius*, with shortage of water the fungus tended to produce thin skins or strings, instead of fluffy cushions, outside the wood; it also tended to produce fruits. The fluffy hyphæ outside the wood were rapidly killed by considerable drought, but the dense strings were much more tenacious to life. Mere drying at ordinary temperatures of wood did not kill *Merulius* that was inside it, for there was a case on record of a piece of infected wood having been kept in a thoroughly dry condition for four years and eight months, under a glass in a laboratory, and thereafter having emitted hyphæ of *Merulius* when it was moistened. The spores of *Merulius* when thoroughly dry would live for years, and it was possible that in dried wood the spores produced inside the drying wood were responsible for the hyphæ that emerged in this case. The peculiar properties of *Merulius lacrymans* as regarded its relations with water were responsible to a large extent for the facts that it was the most dangerous fungus to the wood-work of houses, and that it could appear in houses when there had been no negligence on the part of builder or architect.

Several phenomena of practical importance become comprehensible in the light of knowledge of the part played by water in wood in favouring decay. For instance, it was clear why unseasoned wood, when covered with paint, sometimes underwent more rapid decay than bare wood; shrinkage of the wood caused cracking of the paint and admission of fungi to the moist wood within. Again, if infectious spores were to germinate, they required a supply of liquid water in which they could start growth; spores and water hung on to unplaned wood more firmly than on to planed wood; or, again, the rougher surface of sawn pales for fencing held water and spores better than the smoother surface of cleft pales, so that the latter were more durable. Finally, it was now possible to explode the fallacy of the statement frequently made that in buildings sapwood of a tree, say, Scots pine (red deal) was as durable as the heart-wood. The sap-wood, so long as it was dry, was in an immune condition; but if moisture reached it, sapwood was very much more perishable than heart-wood.

In some cases a particular species of fungus attacked only one genus of timber. For example, the cause of "blue sap" in pine timber, *Ceratostomella Pini*, attacked solely pine timber; whereas another species, *C. Piceæ*, confined its attention to spruce (white deal). Again, other species of fungi attacked only one class of timbers, either only "soft-woods" (coniferous species), as in the case of *Lenzites sæpiarin*, or only "hardwoods." A practical result of this circumscribed choice was that in a house where the timber was infected

by one of these specialists, remedial measures were cheap and simple, and resolved themselves into removing the infected wood and replacing it by wood belonging to the immune class. Yet other species of fungi could attack various kinds of wood; for instance, *Merulius lacrymans* could thus deal with softwoods and hardwoods, even including such durable timbers as oak, teak and mahogany.

As the wood of all trees was in its basic composition identical, the idea came that the resistance of defined woods to attack by certain fungi was afforded by accessory substances added on to the wood and conferring upon it a greater or less degree of immunity, resulting in enhanced durability. That conception was confirmed alike by popular experience and more careful experiments conducted out of doors, which proved that the heart-woods (or their equivalent) of different species showed great differences in durability. The very durable larch and durable Scots pine contrasted with the perishable spruce (white deal); the very durable teak and oak likewise contrasted with the perishable ash, beech, and even more so with poplar.

In connection with the question of immunity it was of great practical importance that with one and the same species of fungus in contact with one and the same kind of wood, the conditions for the infection of the wood by the spores were not the same as those for the growth of the fungus when well established in or on the wood. For instance, if a spore was to germinate and produce hyphæ that would penetrate the wood, liquid water must be present in all cases; but in the case of *Merulius lacrymans* when that fungus had once established itself thoroughly in wood it could at least for a time dispense with external supplies of water and could manufacture water for its own use. Most surprising was the fact that no one had yet succeeded in making the spores of that fungus infect sound wood, even when water was supplied. But if the spores were placed on wood that had previously been attacked, for instance, by *Coniophora*, and were supplied with water, they would germinate and produce hyphæ that penetrated and permeated the wood. The inter-relations between these two species of dry-rot fungi were of a reciprocal type. *Coniophora* could attack sound wood and thus prepare the way for *Merulius* to infect it by means of spores, but *Coniophora* required much moisture which *Merulius* when established could produce for it. That might shed light upon other cases of dry rot in which two or more species of fungi were found working together, but in a manner that only future research could explain.

That fact that the infection of wood by spores of *Merulius* was greatly facilitated, even if not first rendered possible, by previous infections, brought into question the important relation between forestry and dry rot. Fundamentally important was it that the fungi mainly causing dry rot in houses belonged to species quite different from those parasitic on standing trees. It would thus appear that bad forestry, and in particular defective sanitation, leading to abundance of fungal disease in the forest would not contribute to dry rot in houses. But such an assumption was premature; indeed, the reverse was the case. There were several species of fungi belonging to the genus *Trametes* that gravely attacked the wood of standing conifers; wood thus attacked by *Trametes* was thereby rendered vulnerable to *Merulius* spores. As an instance, there was imported into this country a considerable amount of fungus-infected softwood (red deal), known as "wrack." In the specimens he had tested the fungus was dead, and when thoroughly seasoned and installed in a properly ventilated house the fungus possibly would not develop as it attacked the tree in its standing condition; nevertheless, it was at least possible that "wrack" was unsound wood that could be successfully attacked by *Merulius* spores, and so its usage in houses might cause grave loss. Other types of infected wood used as building material thus might be directly or indirectly dangerous.

The fungi mainly responsible for dry rot in buildings were quite different from those common in forests as causing disease in standing trees. Infection took place, therefore, after the tree was felled. Whether or not any considerable infection of Baltic timber took place during the sea voyage was unknown. In the timber yards of this country, on the other hand, the methods of storage were often distinctly bad; logs or sawn wood might be seen in direct contact with moist soil, which contained fungal spores and hyphæ. Again, in builders' yards, side by side with any infected timber from timber yards, there might also be old infected timber extracted from buildings that might be stored either for future use or new buildings, or merely for other purposes.

The methods practically employed to keep at bay fungi causing the rotting of wood were: indoors, mostly maintenance of the wood in a dry condition; out of doors, the application of antiseptic or fungicidal solutions. The protective action of fungicidal solutions depended not only on the toxicity of the solution, but also upon its durability and stability, and upon the depth of penetration into the wood. A shallow coating on the surface might be washed off by rain or broken off locally by a blow, and certainly did not guard the wood against any decay that had already started internally; it was the least effective or durable, but the cheapest method of antiseptic protection. Thoroughly impregnating the wood gave the maximum protection that the solution was capable of, so that in this country wood thoroughly impregnated with creosote, for instance, resisted decay indefinitely. In thoroughly impregnating wood with creosote often there was economic waste. One type of such waste and most inconvenient was exhibited by the streets of London, where the use of inappropriate types of Scots pine wood caused the paving to break up too early. Another type of waste not due to selection of an inappropriate kind of Scots pine, but to the injection of excessive quantities of creosote was exemplified by the railway sleepers on certain railways. In all cases, to secure economy the amount of creosote injected must not exceed that in use for protection beyond the limit of mechanical durability, unless some subsequent use were found for broken creosoted wood. In considering the nature of the antiseptic to be used, it is necessary to note that the power of a definite antiseptic solution varied with the species of fungus.

A solution capable of keeping at bay one species of fungus causing decay of wood would not necessarily guard against another species. That had been proved by a very full series of investigation in Germany, and confirmed by tests on various other types of fungi at the Imperial College. Again, the fungicidal powers of different kinds of antiseptics differed enormously. For instance, solutions often recommended in this country as preventives or curatives of dry rot were those of common salt and iron sulphate, which had very weak action; stronger in action were copper sulphate and zinc sulphate and sodium fluoride; much stronger, but very poisonous and rather lacking in penetrative power, was corrosive sublimate; extremely powerful as a fungicide, too, is soluble magnesium silico-fluoride. Among organic compounds creosote and its derivations were pre-eminent. Commercial creosote was too aromatic for use in houses, but in Germany many derivations not having this disadvantage had been tested, (including, for instance, the extraordinarily effective sodium dinitrophenol).

The lecture was illustrated by a number of lantern slides, one of which we reproduce herewith, by the courtesy of Professor Groom.

An Etruscan Temple.

The temple of the ancient goddess, Voltumna, is believed by Professor Giglioli, of the Villa di Papa Giulio Museum, to have been discovered in the course of the excavations made by Prince Alessandro Ruspoli at Vignanello, between Cività Castellana and Viterbo, states the *Morning Post*. Traces of a vast temple, which is surmised to be the famous *Fanum Voltumnæ*, have been found.

HOUSING AND TOWN-PLANNING NOTES.

London County Council Housing Schemes.

The Housing Committee of the London County Council gives the following summary of the progress made with building operations on the several housing estates of the Council:—Number of houses completed, 846; number of houses roofed in, 1,700; number of houses with wall plate laid ready for roof, 1,203; number of houses in other stages, 2,112. The number of workmen employed under the various contracts on October 27, was 10,916.

Northampton Town-Planning Scheme.

A provisional report has been forwarded to the Northampton Corporation by Mr. T. H. Mawson, of Messrs. Thomas H. Mawson & Sons, respecting the re-planning of portions of the borough about which the firm was consulted some time ago. Suggestions which will be incorporated in the scheme are as follows:—

(1) The construction of a new main road from the junction of Billing-road and Victoria-road, across land east of the General Hospital, across the river Nene, across the L. & N.W.R. Peterborough line, and thence via Hardingstone Fields and Delapre Park to the present junction of the Newport Pagnell and the Stony Stratford roads near Queen Eleanor's Cross. This new road would divert traffic to the south from the Kettering, Wellingborough, and Billing roads and relieve the present congestion in the centre of the town.

(2) The continuance of St. Andrew's-road along the riverside to Kingsthorpe, and the formation between this road and the L. & N.W. Railway, which is several hundred yards on the other side of the river, of a large boating lake.

(3) The laying-out of Dallington Park to the west of the town, recently purchased for the town by Messrs. C. & E. Lewis.

(4) A boulevard across Northampton Racecourse (now no longer used as such), dividing the racecourse into two parts with areas of 78 acres and 39 acres respectively.

NEW BANK AT NORTHAMPTON.

The "George" Hotel, Northampton, formerl the leading hostelry of the town, is in proce s of demolition preparatory to the erection on the site of a large new bank for Lloyds Bank, Ltd. The present building is just over one-hundred years old, but the site has been occupied by inns of the same name for centuries. During the war the hotel was in the hands of the military and has not been reopened. The contract for demolishing the hotel was secured by tender by Messrs. H. Martin, Ltd., of Northampton. The work has been in hand about two months, and will probably be completed by the end of the year. The new building will have a frontage of 115 ft. to George-row and 70 ft. to Bridge-street. It will be of two stories with a flat roof, and a total height of about 44 ft. Constructed of Portland stone in the Classic style, with Ionic columns, it will harmonise with the chief church of the town, All Saints', which stands directly opposite, and which has a large columned portico. We understand that the whole of the frontage will be occupied by the bank premises with the exception of a portion giving access to the rear, and the first floor wil consist of suites of offices let to business firms. The corner at the junction of George-row and Bridge-street will be rounded off. The contract for the erection will be drawn up and opened to tender later. The architect is Mr. F. W. Dorman, A.R.I.B.A., of Market-square, Northampton.

It is interesting to note that demolition has revealed that the hotel was very badly built both as regards material and structural design. The timber was of poor quality, worm-eaten, and rotten, and if the building had remained an hotel considerable expenditure would have been necessary to make it habitable or even safe.

THE BUILDING TRADE.

INCREASE OF RENT ACT: MORTGAGES.

THE recent case Hollands *v.* Cooper (*Weekly Notes*, October 29) raises some interesting points in regard to the Increase of Rent and Mortgage Interest Restrictions Act. In September, 1909, the defendant had mortgaged seven leasehold houses to the plaintiff to secure £1,200. Six of the mortgages were effected by registered charge, but the seventh, being of unregistered land, was effected by subdemise. Each charge or mortgage contained a consolidation clause, the rate of interest was 4½ per cent., and the date of redemption was December 25, 1909.

On June 23, 1914, the plaintiff had given notice calling in the money on the following September 29, but then (by an arrangement duly carried out) the principal had been reduced to £900, the interest increased to 6 per cent., and the date of redemption made December 25, 1914. The houses were within the Rent Act of 1915. That Act, by Section 1, subsection (1) (*v*) provided: "Where the rate of mortgage interest has been increased in compliance with, or in consequence of, a notice in writing demanding either repayment of the mortgage or an increased rate of interest given prior to 4 August, 1914, such increase shall not be deemed to be an increase for the purposes of this Act." Under this section it was admitted that the increase in the mortgage interest was valid, and the defendant continued to pay this interest at 6 per cent. up to September 29, 1920.

On July 15, 1920, however, the plaintiff had given notice again calling in the mortgage, and although this was subsequently withdrawn the defendant then took the point that under the Act of 1920, which repealed the Act of 1915, he was paying more interest than could legally be demanded and that the standard rate being 4½ per cent. the increase should be ½ per cent. to July 2, 1921, and then 1 per cent., and subsequently the plaintiffs issued this summons to foreclose. By Section 7 of the Act of 1920 a mortgagee is not permitted to call in a mortgage so long as the rate of interest permitted by the Act is paid and the covenants are observed; therefore, the real question in this case was whether interest was being paid at the legal rate. Section 4 of the Act provides: "The amount by which the increased rate of interest payable in respect of a mortgage to which this Act applies may exceed the standard rate shall be an amount not exceeding one per cent. per annum, provided that (*a*) the rate shall not be increased so as to exceed six-and-a-half per cent. per annum, and (*b*) except in a case to which this Act applies, but the enactments repealed by this Act did not apply, the increase during a period of one year after the passing of this Act shall not exceed one-half per cent. per annum."

The contention of the plaintiff was that as this increase to six per cent. was valid under the Act of 1915 it was not invalidated by the Act of 1920, but on this point the court held that although by Section 1 of the Act an increase made since March 25, 1920, was irrecoverable, the Act did not provide that all increases made before that date, even validly, should remain valid notwithstanding the other provisions of the Act, which repealed the Act of 1915. The court further held that the permitted increase over the standard rate (in this case 4½ per cent. was one-half per cent. to July 2, 1921, and one per cent. afterwards, and, as the defendant had paid or tendered the permitted rate, under Section 7 the proceedings for foreclosure were barred.

We must confess we find this decision a little difficult to follow, for although the interest had not been increased since 1920 and was then a legal rate under the Act of 1915, this reading of the Act of 1920 practically wipes out the former legislation, but in the Rent Act, as a rule, the three stages of legislation are recognised and houses treated differently accordingly. There is some indication of such an intention as regards mortgages in Section 4, for the increase of only one-half per cent. in the first year after the passing of the Act is limited to "a dwelling-house to which this Act applies but the enactments repealed by this Act did not apply." These houses were under the Act of 1915, yet this provision has been applied to them and only one-half per cent. allowed in the first year. We regret that this case is not to be reported at length in the Law Reports, for it raises questions of extreme importance to mortgagors and mortgagees, and a full report might make the decision clearer.

FRONTAGERS AND MAKING-UP STREETS.

IN a forthcoming Legal Section we shall deal at length with a recent decision—Macclesfield Corporation *v.* Governors of the Free Grammar School of King Edward VI in Macclesfield (1921, 2 Ch. 189), but one point was raised in the judgment in that case of such importance as to call for special notice.

The question raised in the case was whether, under section 150 of the Public Health Act, 1875, a reasonable time had been given to the frontagers on certain streets in which to make up the streets. In fact, the court held that the time allowed was a reasonable time having regard to the whole work to be executed, but the judge, in the course of his judgment, construed the section as meaning that the time allowed in the notice is the time in which it would be reasonable for the frontager to do the particular work he is called upon to do, and not the work as a whole.

This decision, if it represents the law, will have serious results. As a matter of practice it may be doubted if frontagers ever do the work of sewering, paving, &c., themselves, for it is very difficult for each frontager to do a small section representing his frontage of such work as laying a sewer. In practice the frontagers make default and the local authority does the work and makes a demand for the cost of it, but the legislature clearly contemplated that the frontagers should have the opportunity of doing the work, and in the decided cases the time contained in such notices has been the time necessary to be allowed for the whole of the work.

If a local authority were known to be very extravagant in its methods it is conceivable that the frontagers might elect to do the work themselves, and in this case it is quite obvious they would have to combine and engage one contractor to do the work for them, for it would be quite impossible for, say, thirty frontagers having each a frontage of 30 ft. to lay a sewer with thirty different contractors working at the same time. But if the judge is correct in his interpretation of the Statute it would be rendered practically impossible for the frontagers to combine and engage a contractor to do the work for them, for if the notices are all issued at the same time, as in practice they are, and the time in the notices is measured by the time necessary to do the work only on the section of the street in front of the premises of each frontager, the whole work would have to be performed in one-thirtieth of the time necessary for its performance.

As we have said, in the case in question the court did, in fact, consider the time necessary for the performance of the whole work, since in accordance with the practice the local authority had so dealt with the question in the notices; but since the court laid down the reading of the section we have indicated above, in future local authorities may adopt that view and only allow the time on the basis of the work to be performed by each frontager, and such time might well be but a few days. The point is, therefore, of importance to all owners of property abutting on streets not highways repairable by the inhabitants at large, as by this reading of the section the opportunity offered to frontagers of doing the work themselves is practically taken away, and in any case the time allowed may be seriously curtailed.

THE PLUMBING TRADES' NATIONAL APPRENTICESHIP COUNCIL.

A MEETING of the Plumbing Trades' National Apprenticeship Council was held at 24, Old Queen-street, S.W., on October 26, when there were present Mr. E. Lesser (Ministry of Labour); Messrs. S. H. Uttley, J. P. Cox, J.P., B. T. Hillyer, and C. Braithwaite (Institute of Plumbers); Mr. S. Sigsworth (Operative Plumbers); Messrs. R. H. Bew and E. Sharpe (National Registration of Plumbers); Messrs. H. D. Searles-Wood and Mr. C. Porter (Royal Sanitary Institute); Mr. C. T. Millis (Association of Technical Institutions); Messrs. W. D. Caröe and W. J. Jarvis (Worshipful Company of Plumbers); Mr. Hugh Davies (Board of Education); and the Honorary Secretary, Mr. Wood, of Batley. Mr. E. Lesser occupied the chair.

Letters were read (*a*) from the Plumbers' Company expressing the hope that the difference upon the subject of the wages of apprentices would be accommodated by mutual endeavour to appreciate each other's point of view, and (*b*) from Mr. John (Secretary of the Education Committee of the Industrial Council for the Building Industry) stating that the joint recommendation from the meeting of delegates of the Industrial Council and the Plumbing Apprenticeship Council had been submitted to the annual meeting of the Industrial Council and after some discussion had been referred back. It was agreed that no action should be taken by the Council until the matter had been again considered by the Building Industrial Council at its November meeting.

FORMATION OF LOCAL COUNCILS.—Mr. Uttley reported that a meeting had been held which delegates from the masters in Leeds had attended, but for the present the scheme for the formation of local councils had failed to find acceptance. At Sheffield a plumbers' meeting had been held, to which the operatives sent a small deputation, and both masters and operatives agreed to adopt the scheme.

Mr. Sigsworth said the operatives' association had not approved of the scheme.

The Chairman said he thought there must be a misunderstanding, as the operatives had appointed representatives on the Council.

The Honorary Secretary said he had received a letter from the Secretary of the Operative Plumbers stating that the scheme had been accepted.

Mr. Sigsworth said the operatives had had a meeting with the representatives of the Institute of Plumbers, as a result of which the operatives' executive had definitely approved of the scheme, and agreed to withdraw the request to have a national scale for apprentices fixed and to accept the proposal that the question should be left to the local councils. The operatives reserved, however, the right to raise the question of a national scale at any future time. Having now accepted the scheme, the operatives would do all they could to put it into operation at the earliest possible date.

The Secretary reported the receipt of a letter from the Secretary of the Norfolk and Suffolk Plumbers' Registration Council informing him that there was a local apprenticeship scheme in operation in the eastern counties, and asking whether they would be in order in following that scheme or whether they would be in duty bound to abandon the local scheme and take up the national one. The Chairman said the scheme appeared to be on very similar lines to that of the Council. There were five parties to the indenture submitted, including the clerk to the

local charity which advanced the premium, and it was an agreed scheme between operatives and masters. The chief point to which he took exception was the fact that the scheme provided for the payment of a premium, and it was his opinion that the money should rather be spent upon the boy himself by the provision of tools, or, in exceptional circumstances, by a maintenance grant.

The Chairman's opinion was endorsed by the meeting, and the Honorary Secretary was asked to obtain copies of the Eastern Counties scheme for the information of the Council.

The Secretary reported that he had received a letter from the Secretary of the National Registration Council at Nottingham stating that the scheme had been before that Council and had been approved in its entirety.

A discussion then arose as to the best way of establishing the local councils, and Mr. Sigsworth asked the Honorary Secretary to forward 2,000 copies of the scheme to the operatives, who would be prepared to distribute them to their branches. Mr. Carõe suggested that it would be well if delegates of the operatives and the Institute of Plumbers could meet in the various localities with a view to arranging a joint representative meeting.

THE CITY AND GUILDS INSTITUTE.—The Chairman said as the Council was proposing to utilise the examinations of the City and Guilds for the purpose of the scheme it would appear desirable that there should be one or more representatives of the Council upon the City and Guilds Advisory Committee.

Mr. Davies explained that that Committee consisted of members of the Board of Education, City and Guilds, Worshipful Company of Plumbers, Institute of Plumbers, and Operative Plumbers' Association, and suggested that it would be necessary to obtain the consent of these bodies if the Council wished to have direct representation. He thought there would be no hesitation in granting such representation.

Mr. Carõe suggested that as it would be some time before apprentices under the scheme would be sitting for the examinations, it might be advisable to adjourn the matter until the scheme was in full working order.

This was agreed.

Mr. Sharp asked if the City and Guilds Examinations were accepted by the National Registration Council, and Mr. Bew informed him that the Final was accepted.

Mr. Sharp further commented upon the City and Guilds Examination, and expressed the desire of his Local Committee to have a share in the examination.

Mr. Jarvis said he thought there would be no difficulty in making the necessary arrangements.

Mr. Sigsworth suggested that the Secretary should draw up brief directions which might be sent out by the Secretaries of the Institute and the operatives to their local members to advise them as to the way they should proceed in setting up the local councils.

THE NEXT MEETING.—It was agreed that unless important business arose the next meeting of the Council should be held in the New Year.

The National Scheme of Apprenticeship for Plumbers, as approved by the representative trade bodies, is now being put into effective operation, and support and active co-operation of employers and operatives throughout the country is invited. Inquiries from the provinces regarding the scheme should be made to any of the following, from whom copies of the scheme (2d. each) and forms of indenture (1s. each) may be obtained :—

Dr. Reg. S. Clay, Honorary Secretary, Plumbing Trades National Apprenticeship Council, Northern Polytechnic Institute, Holloway, N. 7.

Mr. J. W. Hirst, Secretary, Institute of Plumbers, 28, Queen-street, Albert-square, Manchester.

Mr. L. Macdonald, Secretary, Operative Plumbers' Association, 15, Abbeville-road, Clapham, S.W.

London inquiries should be addressed to Mr. R.H. Bew, Honorary Secretary, Plumbing Trades' Central Apprenticeship Council for London (now administering the national scheme for the London area), 50, Powell-road, Clapton, E.

NEW BUILDINGS IN LONDON.

SOUTHALL.—The "Gem" Cinema, situated on The Green near the G.W. Rly. station, is now being reconstructed and redecorated by Messrs. W. Bousfield & Sons, of Hortus-road. The scheme provides for the laying of a new parquet floor, a large proportion of new seats, and improved sanitary accommodation. The brickwork, cement work, and drainage have been contracted for by Messrs. Brooks & Son, a local firm.

The Borough Council has passed plans for the erection of four shops on the north side of Uxbridge-road, west of Greenford-avenue. No contracts for the work have yet been placed. Mr. H. Gosney is responsible for the scheme, and he has also recently bought about four acres of land adjoining the above site, an extensive building programme being contemplated in the near future.

A part of the old Manor House on The Green is being pulled down in order to allow of widening the road at this point. The work is being carried out by Messrs. W. F. & C. Moore, of Walworth, S.E. A certain amount of reconstruction will be necessary and a new wall to the Manor grounds will be built which will bring this site into line with the shops on each side.

The work of pulling down and rebuilding "The Victory" public house is now well advanced. The building, which is being reconstructed for Messrs. Brandon's Putney Brewery, Ltd., will have a frontage of 90 ft. and a depth of about 60 ft., and stands on a prominent corner site on The Green facing the junction of Featherstone-road and Western-road. The contract is in the hands of Messrs. A. & B. Hanson, Ltd., of Featherstone-road, and the building will be mainly of brickwork, finished with tiles on the front.

Messrs. Hanson also have several other important contracts in hand in the neighbourhood, an interesting one being the housing scheme in Western-road, where they have already completed a number of six-room two-story houses in brickwork, the top half of the exterior walls being finished in stucco. The houses have been set out in garden city style, and a number of others are in course of erection. Several similar houses are also being erected by them on a private road leading from the North Hyde end of Western-road to the entrance of Messrs. Kearley & Tonge's factory. The same contractors are also making excavations on a plot of land on the corner of Scott's-road and Victor-road, preparatory to the laying of foundations for a public house.

HAYES (MIDDLESEX).—A new post office is now being erected on a large site in Station-road, facing the existing building. The contractors, Messrs. W. G. Tarrant, Ltd., of Byfleet, Surrey, are working to the plans and under the direction of H.M. Office of Works, from whom all particulars as to construction and materials may be obtained.

A small motor garage is being erected in Station-road by Messrs. J. Matson, of Clayton-road. The building, of one floor, containing a small workshop at the rear, will be constructed of brickwork, and the steel principals, &c., used in the roof construction are being supplied by the Aston Construction Co., Ltd., of Eagle Wharf-road, N. The architect is Mr. Churchwarden, of Victoria-street, Westminster.

The extension to the Hayes Cottage Hospital has been commenced by Messrs. Thomas & Edge, of Woolwich. The architect is Mr. Churchwarden, of Victoria-street, Westminster.

A block of eight shops is being erected in Station-road by Mr. David Lewes, B.Sc. The walls of the shops are being built of concrete blocks and the interior walls of breeze slabs. The concrete and breeze slabs are being made on the site and the complete block of shops will cover an area of approximately 3,240 sq. ft. Messrs. Adams' Housing Syndicate's patent steel frames have been used for the skeleton of two shops now completed. The premises will be let as lock-up shops for the present, but dwelling accommodation may be erected over them at a later date. Mr. Lewes is also negotiating for a suitable site in the neighbourhood on which to erect an up-to-date cinema.

ST. JOHN'S WOOD.—A large block of service flats is being erected on a site occupying Nos. 20-26, St. John's Wood-road. The building, of six floors, will cover an area of 7,354 sq. feet, and is being erected by the Central London Building Co., Ltd., whose offices are in Grove End-road, close to the site. These flats are being built in brickwork to the design of Mr. Davis, the contractors' own architect, and they will be entirely self-contained. It is understood that when completed these flats are to be sold and not let.

ST. JOHN'S WOOD.—A start has been made with the erection of twelve reinforced concrete coal bunkers for the Central Electric Supply Co. at their generating station, Grove-road. The contractors are Messrs. L. H. & R. Roberts, of Lower Clapton-road, E.

ROTHERHITHE.—The L.C.C. has given consent to the erection of a one-story building for the Lion Cartage Co. on a site on the west side of New-street, adjoining Spa-road. The Council makes a proviso that the work shall be commenced within six months and completed in eighteen months from November 1 and that the completed building shall in no way differ from the plans submitted to them for approval by Mr. J. M. Kennard on behalf of the company.

BERMONDSEY.—Following a building agreement made between the L.C.C. and Messrs. Boots, Ltd., on July 18, 1911, in which the Council agreed to let to the latter a site in Tower Bridge-road covering an area of approximately 57,500 sq. ft., Messrs. Boots have applied to transfer the lease of a part of the land to Messrs. S. H. & W. Hart and the remainder to Messrs. Pickfords, Ltd. Messrs. Pickfords propose to erect on a portion of the land two large buildings for the accommodation of motor vehicles—the plans of which the Council have approved—subject to certain minor alterations and that the lessees obtain a licence to build over the Council's sewer. Messrs. Pickfords' land covers an area of about 37,400 sq. ft., with a frontage of 252 ft. Messrs. Hart's portion of land approximates 20,100 sq. ft., with a frontage of 65 ft.

CLAPTON.—Work has now been commenced on the reconstruction of the premises at 122, Lower Clapton-road, on the corner of Laura-place, which will be redecorated and fitted as a new branch of the National Provincial Bank of England, Ltd. The building will be mainly of brickwork with block facings. The contractors are Messrs. E. B. Holmes & Co., Ltd., of 155, Mare-street, Hackney.

SHADWELL.—The premises on the corner of High-street and Glamis-road have been pulled down and a new unloading dock and warehouse is being erected for Messrs. Meredith & Drew, Ltd., biscuit manufacturers, whose offices are on the opposite corner facing this site. They are carrying out the work themselves by direct labour, and the building (of three floors) will be composed of brickwork with reinforced concrete floors. The architects are Messrs. Fish & Treen, of Palmerston-square.

WAPPING.—A new factory is being built for Messrs. T. Hubbock & Sons, Ltd., paint manufacturers, adjoining their existing premises in Broad-street. The building (of three floors) will be constructed in reinforced concrete by Messrs. J. E. Whiter, of 89, Newington-butts, S.E.

LAMBETH.—A new roadside petrol filler is being erected on the corner of Hercules-road and Westminster Bridge-road, consisting of the main store and offices and pumps for petrol, oil, &c., arranged at intervals around a semi-circular track giving entrance and egress to cars from the main road. The contractors are Messrs. H. O. Thompson, Ltd., of 4, Upper Bedford-place, W.C. 1.

WEST CENTRAL.—We regret that in our last issue we stated that Diespeker flooring was being used in the erection of premises in Regent-street for Messrs. Hedges & Butler, Ltd. The whole of the flooring of this building is being supplied by the Kleine Patent Fire-Resisting Flooring Syndicate, of 133-6, High Holborn, W.C.

CONCRETE.

AT the last meeting of the Liverpool Architectural Society, Mr. S. Bylander read an exhaustive paper on the subject of "Concrete." The chair was occupied by the President of the Society, Mr. Gilbert Fraser, F.R.I.B.A., and forty-three members were present.

In the course of his paper, Mr. Bylander said concrete or artificial stone was a building material of immense possibilities for structural purposes. It could be easily formed and cast to the desired shape without joints, and it could be made very strong if well manufactured, particularly when steel reinforcement was embedded. It permitted of great flexibility in design and purpose; it was durable and reliable if suitably used, but it could not compete with natural stone for appearance because of its depressing colour, which did not improve with age, and its uninteresting surface. Reinforced concrete permitted of shallow beam and cantilever construction in place of the deep and more expensive stone, brick, or plain concrete arch construction for buildings.

Concrete, being fire-proof and rot-proof, was superior to wood for structural purposes. Except in warehouses, factories, and like buildings the concrete was usually faced with stone, marble, plaster, wood, or other more pleasing materials for decorative finish. It was more lasting than unprotected steel when exposed to the atmosphere, and when forming part of a structure concrete members must be thicker or heavier than steel, rendering them more applicable to the solidity desired for architectural effect. It was also more fire resisting than unprotected steel, or even stone.

For the warehouse class of buildings concrete was often good enough for external and internal finish. If the concrete was well and uniformly executed with splayed and filleted angles, it was superior to plaster for service. A good and successful example of external treatment of concrete by colour scheme was to be seen at the new match factory at Garston, the concrete exterior of which was made more interesting by the introduction, in parts only, of bright, differently-coloured glazed tiles and ornaments, which gave more cheerfulness to the elevation.

Rough Concrete.

Concrete made without special study and attention might be referred to as "rough" or ordinary concrete as used for foundations, filling voids, and making retaining walls where small stresses occurred and bulk, weight, and spread were the essentials. For rough concrete the coarse material and sand were usually not separated but measured together and called mixed aggregate. Further experience in the use of concrete, particularly when reinforced, had convinced engineers that it paid to give more attention to the making of concrete, that concrete could be relied upon to take high compressive stresses, and that fairly uniform ultimate crushing strength was obtainable. Reinforced concrete had in recent years become very popular, and was often spoken of as a separate material from concrete. He preferred to consider concrete as a structural material irrespective of whether plain or reinforced, as the addition of steel bars did not change the nature of the concrete. Steel bars were added to strengthen parts of the structure, particularly where tension occurred, but not to make up for a deficiency in the quality of the concrete itself.

Standard Concrete.

Gradually specialists adopted the mix 1:2:4 as a standard, and that might be called "structural standard concrete," in which not only the mix was standardised but also the composite materials and methods of manufacture. A generally-accepted standard had the advantage of easier working and greater confidence in result. The fundamental reason why design and construction of concrete must necessarily be attended to by experts was that the making of concrete structures was essentially a manufacturing operation, and was very difficult because the work was carried out on the site instead of at a factory where working conditions would be more favourable for uniform and reliable manufacture. Standardisation for concrete was equally, if not more, important than for structural steelwork. Structural steel could easily be obtained of uniform and reliable quality, and he believed that in the near future by the use of standard materials and methods and the employment of specialist engineers concrete could also be made of reliable and uniform quality, although not to the same extent as steel. Steelwork had been successfully used for buildings, and undoubtedly concrete had a great future before it.

Special Concrete.

Richer or leaner mixtures of concrete were obtained by varying the proportion of cement. Rich mixes, such as 1:1:2 or 1:1½:3 were used when great strength was required for tanks, &c. Medium mixtures, such as 1:2½:5, were suitable for walls and construction of great thickness. Lean mixture, such as 1:3:6, was suitable for mass concrete, machine foundations, heavy retaining walls, &c. The proportion of cement, sand, and coarse material was usually given as compared with one part of cement, because when proportioning the batch it was convenient to use a bag of cement which contained a definite weight. The volume of sand and coarse material for the batch was adjusted to suit. Special mix concrete might be required for special work, such as pre-cast work.

Varieties of Concrete.

Concrete might be reasonably divided into four classes, as follows:—

(*a*) Mass concrete (for work in mass, heavy walls, and foundations).

(*b*) Structural plain concrete (for parts of framed structures in concrete without reinforcement, piers, walls, bases, beds, &c.).

(*c*) Structural reinforced concrete (for framed structures having members of relatively small sizes and subjected mostly to transverse loads, such as floor-slabs, beams, cantilevers, &c., or a whole structure might be in reinforced concrete).

(*d*) Other concrete work, including pre-cast work.

Materials.

CEMENT.—Cement should be specified "standard slow setting" and samples taken and tested. Portland cement only should be used.

SAND.—Unless obtained from a known source and previously tested the sand should be tested as well as the cement. A small amount of vegetable matter made sand unsuitable. Fine sand made a weaker concrete than graded coarse sand. If fine sand must be used then the proportion of cement must be increased. Whether the grains were round or angular did not very much affect the strength of the concrete. The grains of sand should be preferably graded from small to large, and must all pass a ¼-in. mesh.

COARSE MATERIAL.—Only hard material should be used and of such size that the concrete could readily be placed in the corners of the moulds and between the reinforced concrete. For reinforced concrete ¾ in. maximum size was usual and 1 in. permissible. All must be retained on a ¼-in. mesh. Crusher-run gravel containing graded sizes, and not one size only, was desired. Broken stone, gravel, and broken hard brick were suitable materials. Soft stone should be avoided in important work. Caution must be used when crushed stone contained dust. A small amount of stone flour would materially reduce the strength of the concrete, but a very small proportion if known and uniform would not necessarily be a cause for rejection. If fine and coarse aggregates were mixed and must be used for reason of cost the amount of material less than ¼ in. should be ascertained by screening, and proportionately less sand used when mixing. Gravel must be clean and not coated with dirt, as the coating would prevent the cement from adhering to the pebbles. Rounded coarse material was nearly equally acceptable as sharp angular crushed stone for reason of cost. The rounded pebbles required less cement, and the angular stone, while sometimes a little stronger, required more cement and mortar to fill the voids on account of bridging.

Reinforcement.

All steel must be tested, particularly for bending. Steel must be accurately bent and placed to drawings and properly secured against distortion while concreting. The bond or grip between round bars and concrete was sufficient with proper embedment. Hooks at ends were desirable. Deformed bars in some cases might be used to secure greater bond. Flats, squares, and structural shapes were not so good as round bars. High-tensile and high-carbon steel should not be calculated for higher working stress, as they might be brittle, while they might afford an advantage if of special good quality. Steel bars would not rust if completely embedded in concrete of a medium wet consistency.

(To be continued.)

FEDERATION OF MASTER PAINTERS AND DECORATORS.

THE conference and exhibition of the National Federation of Master Painters and Decorators, held at Manchester at the latter end of last month, was a very successful affair, both as regards the number present and the quality of the work exhibited.

Mr. J. Hewson Cantrill (President) presided at the conference, when a number of papers were read on matters of interest to the painting and decorating trades, and a resolution was passed approving the principles of the unemployment insurance scheme now being considered by the employers and operatives in the building industry.

Mr. Cantrill also presided at the annual dinner, when the Lord Mayor of Manchester (Alderman W. Kay), Mr. D. C. Blewes (President of the National Federation of Master Painters in Scotland), Mr. S. Miller (President of the National Association of Master Painters in Ireland), Mr. B. J. Hellyer (President of the Institute of Plumbers), and Mr. H. Piper (President of the National Operative Painters' Society), were present.

In proposing the toast of the Federation, the President urged the members to work in their organisation so as to convince the public as to their capabilities, and to maintain a pride in their craft.

Mr. T. Worthington said the Federation was all in favour of better education, both technical and general, and would use its utmost endeavours to make the craft better than it had ever been before.

Mr. J. Walsh (Chairman of the National Joint Education Committee) said he was satisfied that as a result of the work of his committee there was a distinct improvement in the class of work exhibited that year. The operatives enthusiastically supported the work of the committee, and had a keen desire to turn out the best work.

The exhibition was opened by Lord Emmott, who referred to the spirit of goodwill which appeared to animate the employers and operatives engaged in the painting and decorating trades, and said he was certain that without such a spirit there could be no solution of the present industrial troubles. He expressed the opinion that there ought to be a means of obtaining a just division of profits of industry without bargaining as to who could get the best of the circumstances of the moment.

The quality of the exhibits was of a high standard, and covered all branches of the painters' and decorators' crafts. Messrs. Blyth, Heald & Langdale, Ltd., of Hull, showed excellent examples of work done with their distempers

and paints. Messrs. Naylor Brothers (London), Ltd., of Slough, displayed various panels showing the application of their varnishes, enamels, and ready-mixed paints. A speciality of this firm is an imitation stone paint which gives a very good finish resembling new stonework; it is claimed that 1 cwt. will cover approximately 200 sq. yds. Some fine samples of their products were shown by Messrs. Hadfields (Merton), Ltd., of Mitcham, whose well-known "Heolin" paints were shown to good advantage. A new material was shown by Messrs. Perry & Hope, Ltd., of Nitshill, near Glasgow, in the form of "Emesco" paint, a titanium oxide, which is claimed to have great atmosphere-resisting properties.

One of the most attractive features of the exhibition was the section allocated to the National Joint Education Committee, where a fine display of work was submitted in the annual competition held by the Committee. The work this year was notable for the high standard of craftsmanship displayed and the large increase in the number of exhibits, there being 2,500 entries. The competition formed what might be described as the test of the preliminary section of the scheme of technical education inaugurated by the Committee. The scheme provides for the education of the painter from the time he enters the trade until he qualifies by examination as a Fellow of the Institute of British Decorators. The work submitted was examined by a selection committee and the selected work was exhibited. The competitors were divided into classes, prizes being awarded according to classification, as follows:—

Class I.—From 14 to 16 years of age. (The work for this section consisted of tests in plain painting, lettering, rubbing down, graining and brush bridling.)

Class II.—From 16 to 19 years of age. (Plain painting, lettering, graining and marbling, lining, colour matching and simple schemes of decoration in washes of flat colour.)

Class III.—From 19 to 21 years of age. (Plain painting, lettering, graining and marbling, stencilling, schemes of decoration for a public building, studies of plant form and painting as ornament.)

Class IV.—For journeymen and employers. (Plain painting, graining and marbling, lettering [one test on glass and one on wood in imitation incised lettering].)

The standard of work submitted was much better than that of any previous year, and one readily recognised that a scheme which produced work of this type must ultimately raise the whole standard of the craft.

The National Joint Education Committee has divided the country into areas, each area having its own Local Joint Education Committee. It is the duty of this committee to follow the policy set up by the National Committee in educational matters. The London Local Joint Education Committee, in the first year of its inception, has been successfully represented in the competition, four prizes having been awarded to competitors from its area. Practically all the work accepted for the competition was awarded 80 per cent. of the marks possible, and the students concerned will receive the certificate of the Federation in due course. It is noteworthy that all the successful students in the area are from the Department of Architecture, Surveying, and Building, at the Northern Polytechnic, Holloway, N.

Liverpool Building Trades' Employers' Association.

The fifty-fifth annual meeting of the Liverpool, Birkenhead, and Wirral Districts Building and Allied Trades Employers' Association took place last week. Mr. Thomas W. Stubbs, of Liverpool, was elected president for the ensuing year, and a vote of thanks was passed to the retiring president, Mr. G. P. Snape. The following officers were elected:—Mr. W. F. Thornton, senior pice-president; Mr. W. E. Tyson, junior vice-president; Mr. John Tomkinson, honorary treasurer; Messrs. S. Sirett-Brown and H. Lever, honorary auditors.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdare	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Accrington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/ ½		1/7½	
Altrincham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Ashton-under-Lyne	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Barnsley	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Barrow-in-Furness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Barry	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Bath	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5	
Bedford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Birkenhead	2/2	2/2	2/2	2/2	2/2	2/2	2/2		1/9½	
Birmingham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Bishop Auckland	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Blackburn	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Blackpool	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Bolton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Bournemouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Bradford	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Bridgwater	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/3	
Brighton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Bristol	2/0½	2/0½	2/0½	2/0½	2/0½	2/ ½	2/0½		1/7½	
Burnley	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Burton-on-Trent	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Bury	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Cambridge	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Cardiff	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Chatham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½	
Chelmsford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Cheltenham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5	
Chester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Chesterfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Colchester	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Coventry	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Crewe	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Darlington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Derby	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Doncaster	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Dudley	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Durham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
East Glam. and Mon. Valleys	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Exeter	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½		1/4	
Folkestone	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½	
Gloucester	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½		1/5	
Grantham	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Grays	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/11½		1/7½	
Grimsby	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Great Yarmouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½	
Guildford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Halifax	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Harrogate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Hartlepools	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Hastings	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½	
Hereford	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½		1/5	
Huddersfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Hull	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Ipswich	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Lancaster	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Leamington Spa	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Leeds	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Leicester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Lichfield	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Lincoln	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Liverpool	2/2	2/2	2/2	2/2	2/2	2/2	2/2		1/9½	
Llanelly	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
London	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/11½		1/7½	
Loughborough	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Luton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Maidstone	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½	
Manchester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Mansfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Merthyr Tydfil	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Middlesbrough	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Newcastle-on-Tyne	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Newport, Mon.	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Northampton	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Norwich	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Nottingham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Oakham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5	
Oldham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Oxford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Plymouth	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/9½		1/6	
Pontypridd	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Portsmouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Preston	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Reading	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Rochdale	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Rochester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½	
Rugby	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
St. Albans	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
St. Helen's	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Scarborough	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Sheffield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Shrewsbury	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Southampton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Southend-on-Sea	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Southport	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
South Shields	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Stockport	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Stockton-on-Tees	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Stoke-on-Trent	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Stroud	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8		1/4	
Sunderland	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Swansea	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Taunton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Torquay	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Tunbridge Wells	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/4	
Wakefield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Walsall	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
Warrington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
West Bromwich	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/7½	
Wigan	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/4	
Windsor	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½		1/7½	
Wolverhampton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½		1/6	
Worcester	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/6	
York	1/11	1/11	1/11	1/11	1/11	1/11	1/11			

(For rates of wages in the Building Trade in Scotland, see page 658.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom, or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

NOVEMBER 14.—**Brandon.**—PAINTING.—Painting of seven detached cottages, for the Brandon and Byshottles Equitable Co-operative Society. Mr. James Turner, Secretary, Brandon.

NOVEMBER 14.—**Edinburgh.**—ALTERATIONS.—For alterations at offices, 321-329, High-street, for the T.C. Mr. James A. Williamson, City Architect, Public Works Offices, City Chambers, Edinburgh.

NOVEMBER 14.—**Hammersmith.**—HOUSES.—Erection of 83 cottages on the Old Oak Estate Hammersmith, W., for the London County Council. Architect to the Council, New County Hall, Westminster Bridge-road, S.E.1. Deposit £5.

NOVEMBER 14.—**Hucknall.**—LODGE.—Erection of a caretaker's lodge in the Titchfield Park, for the U.D.C. Mr. H. Raven, Surveyor, Council Offices, Watnall-road, Hucknall. Deposit £2 2s.

NOVEMBER 14.—**Lundin Links.**—EXTENSIONS.—Extensions at Lundin Links School, for the Fife Education Authority. Mr. George Sandilands, Master of Works, Education Offices, Wemyssfield, Kirkcaldy. Deposit £1 1s.

NOVEMBER 14.—**Penrith.**—ADDITIONS, &C.—For additions and alterations to Penrith Jubilee Cottage Hospital. Mr. R. Morton Rigg, architect, 46, King-street, Penrith.

NOVEMBER 14.—**Ruislip-Northwood.**—FIRE STATION.—Erection of fire station, for the U.D.C. Mr. H. R. Metcalfe, Surveyor, Council Offices, Northwood.

NOVEMBER 14.—**Tottenham.**—PAVING, &C.—For metalling and paving portions of carriageways and footways of De Quincey and Morteyne-roads and Awlfield-avenue, for the L.C.C. Architect to the Council, New County Hall, Westminster Bridge-road, S.E. 1. Deposit £2.

NOVEMBER 14.—**Warrington.**—FENCING.—Supply of 1,280 lineal yards of cleft chestnut fencing and 27 gates, to T.C. Borough Surveyor, Warrington.

NOVEMBER 15.—**Bootle.**—FENCING.—Fencing for 56 houses on Linacre site, for the T.C. Borough Engineer, Bootle.

NOVEMBER 15.—**Doncaster.**—PAINTING.—External painting of the Fever Hospital, Common-lane, Conisborough, near Rotherham, for the Doncaster and Mexborough Joint Hospital Board. Mr. H. M. Marshall, Clerk, Nether Hall, Doncaster.

NOVEMBER 15.—**Douglas.**—ALTERATIONS.—For alterations and additions to the Manx Museum and Art Gallery, for the Government Property Trustees. Government Office, Douglas. Deposit, £1 1s.

NOVEMBER 16.—**Bootle.**—FENCING.—Fencing in (a) concrete posts and wire, (b) chestnut paling and wood posts, for the County Borough. Borough Engineer, Town Hall, Bootle, endorsed "Fencing."

NOVEMBER 16.—**Cardiff.**—HUTS.—Erection of huts at Cardiff, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. Deposit £1 1s.

NOVEMBER 16.—**Chelmsford.**—PAINTING.—Works of painting the exterior of the public library buildings, for the T.C. Borough Engineer, 16, London-road, Chelmsford.

NOVEMBER 16.—**Failsworth.**—FENCING.—(*a*) Supply of fencing of wrot-iron railings and gates; (*b*) surface water and underdraining works at the Recreation Ground, for the U.D.C. Mr. J. W. E. Brown, Surveyor, Town Hall, Failsworth.

NOVEMBER 16.—**Kensington, W.8.**—BUILDING.—Erection of 40 flats and four cottages at St. Mark's-road, North Kensington, for the Royal Borough Council. Mr. A. D. Soutar, architect, 8, King William-street, Charing Cross, W.C.2. Deposit £2 2s.

NOVEMBER 16.—**Sheffield.**—ALTERATIONS.—Alterations to the Head Post Office, Sheffield. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

NOVEMBER 17.—**Kidderminster.**—HOUSES.—Erection of 116 houses on Aggborough site, for the T.C. Mr. J. H. Thursfield, Town Clerk, Kidderminster.

NOVEMBER 17.—**Prestwich.**—PAINTING.—For painting the interior of the main building of the County Asylum, Particulars at the Asylum.

NOVEMBER 17.—**Southampton.**—HOUSES.—Erection of 50 houses of parlour type and 50 of the non-parlour type on the Hampton Park Estate, for the T.C. Borough Engineer, Southampton.

NOVEMBER 18.—**Canterbury.**—HOUSES.—Erection and completion of 12 houses (to be erected in pairs and blocks of four) on land situate off Forty Acres-road, St. Dunstan's-street, Canterbury, for the Borough Council. Mr. F. H. Dore, 25, Watling-street, Canterbury.

NOVEMBER 18.—**Kirkcaldy.**—COTTAGE.—Erecting workman's cottage at Glenfarg Reservoir, for the Kirkcaldy District Water Board. Messrs. J. & A. Leslie & Reid, Engineers, 72A, George-street, Edinburgh. Deposit £1.

NOVEMBER 19.—**Durham.**—SCHOOL.—Erection of new school for about 320 infants, at Thornley, for the Durham C.C. Mr. F. Willey, Architect, 34, Old Elvet, Durham.

NOVEMBER 19.—**Ebbw Vale.**—SCHOOL.—Erection of a temporary (weather-boarded) school building (comprising three classrooms, corridor, and cloakrooms), latrines and drainage, adjoining the Ebbw Vale County School, for the Monmouthshire E.C. Mr. John Bain, Architect, County Hall, Newport.

NOVEMBER 19.—**Rossington.**—CONVENIENCE.—Erection of a public urinal at West End-lane, for the R.D.C. Mr. W. R. Crabtree, Surveyor, Union Offices, Nether Hall, Doncaster.

NOVEMBER 19.—**Southend-on-Sea, Essex.**—WOODEN-FRAMED SCHOOL BUILDINGS.—Erection and completion of a wooden-framed building to be used as classrooms at the Commercial Secondary School, Victoria-avenue, for the County Borough. Mr. R. H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea. Deposit £2.

NOVEMBER 21.—**Newport (Isle of Wight).**—PAINTING.—For painting and repairs to greenhouses at the County Council Gardens. Mr. J. Dufton, Clerk, County Hall, Newport.

NOVEMBER 21.—**Newton Abbot.**—HOUSES.—Erection of 10 houses, for the U.D.C. Mr. J. C. Beare, architect, 42, Devon-square, Newton Abbot. Deposit £2 2s.

NOVEMBER 21.—**Portsmouth.**—BUILDING.—Extensive new warehouses at Clarendon-place and Buckingham-street, Portsmouth. Messrs. Timothy White Co., Ltd., 30, Chandos-street, Portsmouth.

NOVEMBER 21.—**Romford.**—CONVENIENCE.—Construction of underground convenience, for the U.D.C. Mr. F. G. Beaumont, Surveyor, Romford. Deposit £2 2s.

NOVEMBER 21.—**Spanborough.**—HOUSING.—Erection of a number of houses, for the U.D.C. Mr. Arthur Rohera, Surveyor, Housing Department, Town Hall, Liversedge. Deposit £1.

NOVEMBER 21.—**Teddington.**—EXTENSIONS.—Extensions to the National Physical Laboratory, Teddington. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

NOVEMBER 22.—**Horsmonden.**—REPAIRS, &C.—Repairs, painting, &c., at the Village Hall, Horsmonden, Kent. Secretary, 2, Heathleigh Villas, Horsmonden.

✱NOVEMBER 22.—**London, S.E.**—SEWERS, WANDLE VALLEY SEWER.—Brick and concrete sewer of varying sizes of a total length over all of nearly 2½ miles, wholly situated in the Borough of Wandsworth, for the L.C.C. Chief Engineer at the County Hall, Spring Gardens, S.W. Deposit £5.

✱NOVEMBER 23.—**Carshalton, Surrey.**—CONVERSION.—For work in conversion of Wards A3 and A4 into operating room, anæsthetic room, and X-Ray room, and dark room at Queen Mary's Hospital for Children, for the Metropolitan Asylums Board. The Clerk, Office of the Board, Embankment, E.C.4. Deposit £1.

NOVEMBER 23.—**Lewis.**—HOUSES.—Erection of fourteen blocks each of two dwelling-houses at Stornoway and elsewhere throughout the Island; also (2) the water supply and drainage works, paths, fencing, &c. Mr. Alex. Grant, architect, 6, Queensgate, Inverness.

NOVEMBER 23.—**London.**—PAINTING.—Cleaning and painting work to main staircases of ward blocks at Tooting-Bec Mental Hospital for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C. 4. Deposit £1.

✱NOVEMBER 23.—**Tooting, S.W. 17.**—CLEANING, &C.—Cleaning and painting work to main staircases of ward blocks at Tooting Bec Mental Hospital, for the Metropolitan Asylums Board. The Clerk, Office of the Board, Embankment, E.C. 4. Deposit £1.

NOVEMBER 24.—**Corwen.**—COTTAGES, &C.—Erection of four cottages and buildings, &c., at Druid, near Corwen, for the Merioneth C.C. Mr. R. C. Jones, Architect, County Offices, Dongelley.

✱NOVEMBER 24.—**London, E.1.**—BUILDING.—Providing an operating theatre and sterilising and anæsthetic rooms at the Infirmary, Raine-street, E.1, for the Guardians of the Parish of Saint George-in-the-East. Clerk to the Guardians, Guardians' Office, Raine-street, Old Gravel-lane, E.1.

NOVEMBER 26.—**Adwick-le-Street.**—FENCING.—Fencing of Sections 2, 3 and 4 of the Woodlands Housing Scheme, for the U.D.C. Council Offices, Village-street, Adwick. Deposit £2.

NOVEMBER 26.—**Surbiton.**—HOUSES.—Erection of six houses at Surbiton-hill forming part of their housing scheme for the U.D.C. The Clerk, Council Offices, Ewell-road, Surbiton. Deposit £1 1s.

NOVEMBER 28.—**High Wycombe.**—HOUSES.—Erection of 60 houses and construction of roads and sewers, for the T.C. Mr. T. J. Rushbrooke, Borough Surveyor, Town Hall, High Wycombe.

✱NOVEMBER 28.—**Rochester, Kent.**—EXTENSION.—Erection in semi-permanent materials of an extension of the Technical Institute at Rochester, for the Kent Education Committee. County Education Architect, Room 69, Sessions House, Maidstone. Deposit £2.

NOVEMBER 29.—**Limehouse.**—REPAIRS, GUTTERING, &C.—Repairs to gutter, rain-water, soil, and other pipes at the Institution at St. Leonard's-street, Bromley-by-Bow, London, E.3. Mr. A. J. Smith, Clerk to the Guardians, Parish of Limehouse, Barnes-street, Ratcliff, E.14. Deposit £2 2s.

NOVEMBER 29.—**London.**—REPAIRS.—Repairs to gutter, rain water, soil, and other pipes at their Institution at St. Leonard's-street, Bromley-by-Bow, for the Limehouse B.G. Mr. A. J. Smith, Clerk, Guardians' Offices, Barnes-street, Ratcliff, E. Deposit £2 2s.

NOVEMBER 29.—**Warrington.**—EXTENSION.—Extension of buildings, for the Electricity Committee. Mr. S. P. Silcock, Architect, 6, Egypt-street, Warrington. Deposit £1

NOVEMBER 30.—**Darlington.**—HOME.—Erection of Church of England Waifs' and Strays' Home, Darlington. Messrs. Joseph Potts & Son, architects, 57, John-street, Sunderland. Deposit £2 2s.

✱DECEMBER 8.—**London, N.W.**—ENGINE ROOM.—Erection of new engine room, &c., at King's-road Power Station, for St. Pancras B.C. Electricity Dept., Offices, 57, Pratt-street, Camden Town. Deposit £2.

NO DATE.—**Bradford.**—PAINTING.—Painting and graining 27 houses. Mr. Jowett, 42, Glover-street, Bradford.

NO DATE.—**Pontefract.**—STORES.—Erection of new stores, Purston, near Pontefract, for the Pontefract Industrial Co-operative Society, Ltd. Messrs. Garside & Pennington, architects, Ropergate, Pontefract. Deposit £1 1s.

NO DATE.—**York.**—REBUILDING.—Rebuilding of business premises, St. Helen's-square, York, for Messrs. Joseph Terry & Sons, Ltd. Messrs. Joseph Terry & Sons, Ltd., Clementhorpe, York. Deposit £2.

FURNITURE, MATERIALS, etc.

NOVEMBER 12.—**Bristol.**—MATERIALS.—Supply of various materials for the Sanitary and Improvement Committee. Mr. L. S. McKenzie, City Surveyor, 63, Queen-square, Bristol.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Labourers.	Plasterers' Labourers.
Aberdeen	1/11	1/11	1/11	1/11	1/11	1/11	—	1/6 to 1/7	
Airdrie	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Alexandria	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Arbroath	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/5½	
Ayr	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/5½	
Bathgate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	—	
Blairgowrie	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—	
Bo'ness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/-	1/8	
Coatbridge	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Dumbarton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½	
Dumfries	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/0 o 1/7	
Dundee	2/0½	2/0½	2/0½	2/0½	2/0½	2/4	2/1	1/7½	
Dunfermline	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Duns	1/9	1/9	1/9	1/9	1/9	1/9	1/6	1/3 to 1/4	
Edinburgh	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Falkirk	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Fort William	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	1/5	
Galashiels	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—	
Glasgow	2/0½	2/0½	2/0½	2/0½	2/0½	1/11½	2/1	1/7½	
Greenock	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/4½ to 1/7½	
Hamilton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½	
Hawick	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	2/-	1/4½	
Helensburgh	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Inverness	1/11½	—	1/11	1/11	1/11½	1/11	1/11	1/0 to 1/3†	
Kilmarnock	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7	
Kirkcaldy	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/6½	
Kirkwall	1/9	1/9	1/9	1/9	1/9	1/9	—	1/2	
Lanark	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7	
Motherwell	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	
Perth	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½	
Stirling	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½	
Stirlingshire (Eastern District)	2/0½	2/0½	2/0½	2/0½	2/0½	2/4	2/1	1/7½	
Wishaw	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 657.

† Under unemployment relief scheme, 11d.

NOVEMBER 12.—**Swansea.**—MATERIALS.—Supply to the Swansea Harbour Trust of iron, chains, timber and general stores. Engineer, Harbour Office, Swansea.

NOVEMBER 14.—**South Africa.**—GREASE.—Supply of 33½ tons of anti-friction grease to the Administrator of Harbours and Railways. Department of Overseas Trade, 35, Old Queen-street, S.W.

NOVEMBER 14.—**Warrington.**—GRANITE SETTS.—Supply of 1,000 tons of 4 in. by 5 in. granite setts to the T.C. Mr. Andrew M. Ker, Borough Engineer, Warrington.

NOVEMBER 15.—**Dublin.**—STORES.—Supply of stores to the Midland Great Western Railway Co. of Ireland. Storekeeper, General Stores, Broadstone Station, Dublin. Charge, 6d. per form.

NOVEMBER 15.—**Enfield.**—ROAD MATERIALS.—Supply of 400 tons of tarred slag macadam, to the U.D.C. Mr. H. R. Crabb, Surveyor, Public Offices, Enfield.

NOVEMBER 15.—**Maldon.**—ROAD MATERIAL.—Supply of granite flints and gravel, and hire of steam rollers, for the R.D.C. Mr. E. J. Ennals, Highway Surveyor, 6, Market Hill, Maldon.

NOVEMBER 15.—**Romford.**—GRANITE.—Supply of 1,085 tons of 2 in. broken blue Guernsey granite, to the U.D.C. F. G. Beaumont, Surveyor, Romford.

NOVEMBER 16.—**Bentley-with-Arksey.**—LAMPS.—Supply of electric lamps, to the U.D.C. Architect, Council Offices, Bentley.

NOVEMBER 16.—**Birmingham.**—MATERIALS.—Supply to the Board of Guardians of hardware, gas chimneys and incandescent mantles, and brushes. Matron, Monyhull Colony, Birmingham.

NOVEMBER 16.—**Bristol.**—MATERIALS.—Supply to the Board of Guardians of bricks and sanitary appliances, timber, oils and colours, &c. Mr. J. J. Simpson, Clerk, St. Peter's Hospital, Bristol.

NOVEMBER 16.—**Cambridge.**—ROAD MATERIALS.—Supply of road materials, to the C.C. Mr. A. E. Peake, County Surveyor, Cambridge.

NOVEMBER 17.—**Argentina.**—GALVANISED SHEETS.—Supply to the Argentine State Railways of galvanised iron sheets. Department of Overseas Trade, 35, Old Queen-street, S.W.

NOVEMBER 18.—**Argentina.**—ASPHALT, &C.—Supply to the Argentine State Railways of pitch, asphalt and cement. Department of Overseas Trade, 35, Old Queen-street, S.W.

NOVEMBER 21.—**Glasgow.**—MATERIALS.—Supply of road materials, paints, oils, &c., timber and glass, mason work, cartage work, to the Parks Dept. Mr. James Whitton, Director of Parks, &c., City Chambers, 249, George-street, Glasgow.

NOVEMBER 21.—**West Sussex.**—ROAD MATERIALS.—Supply to the County Council of road materials. Mr. H. W. Bowen, County Surveyor, Horsham.

NOVEMBER 21.—**West Sussex.**—TAR.—Supply of about 200,000 gallons of tar to the B.C. Mr. H. W. Bowen, County Surveyor, North-street, Horsham.

NOVEMBER 23.—**West Hartlepool.**—MATERIALS.—Supply of road materials and sewer pipes to the T.C. Mr. Nelson F. Dennis, Borough Engineer, Municipal Buildings, West Hartlepool.

DECEMBER 5.—**Middleton.**—MATERIALS.—Supply of road materials, to the T.C. The Borough Surveyor, Town Hall, Middleton.

JANUARY 23.—**Madras.**—STONEWARE PIPES.—Supply of 58 miles of stoneware pipes and specials varying from 4 in. to 18 in. Messrs. J. Mansergh & Sons, agents for the Madras Corporation, 5, Victoria-street, Westminster, S.W.

NO DATE.—**Aberdare.**—STORES.—Supply of stores to the Powell Duffryn Steam Coal Co., for three or six months. Stores Manager, Aberaman Offices, Aberdare.

ENGINEERING, IRON AND STEEL.

NOVEMBER 14.—**Blackburn.**—FENCE.—Supply of wrot-iron railings and gates at Green Park, for the T.C. Mr. A. T. Gooseman, Borough Engineer, Town Hall, Blackburn.

NOVEMBER 14.—**Bristol.**—HEATING INSTALLATION.—Installation of a heating apparatus for wards 80 and 90 at the Eastville Institution, for the Board of Guardians. Mr. J. J. Simpson, Clerk, St. Peter's Hospital, Bristol.

NOVEMBER 14.—**Holland.**—BRIDGE.—Building of railway bridge at Amsterdam, for the Dutch Railway authorities. Department of Overseas Trade, 35, Old Queen-street, S.W.

NOVEMBER 14.—**Leeds.**—TANK, &C.—Design and construction of an elevated water-tight reinforced concrete tank and pump house, at Moortown, for the T.C. Mr. Charles G. Hensell, Waterworks Engineer, 26, Great George-street, Leeds. Deposit £1.

NOVEMBER 14.—**Leicester.**—PIPES.—Supply of about 2,700 tons of 27 in. diameter cast-iron pipes to the T.C. Mr. G. T. Edwards, Water Engineer, Waterworks Office, Bowling Green-street, Leicester.

NOVEMBER 14.—**Manchester.**—ELECTRIC INSTALLATION.—Excavating and supplying and laying heavy 4-core A.C. cable, switchgear, and electric lighting of portion of Monsall Hospital. City Architect, Town Hall, Manchester. Deposit £1 1s.

NOVEMBER 16.—**Littleton (Middlesex).**—PUMPS.—Supply and erection of pumping machinery at Littleton, Middlesex, for the Metropolitan Water Board. Mr. Henry E. Stilgoe, Chief Engineer, 173, Rosebery-avenue, E.C. 1. Deposit £3 3s.

NOVEMBER 16.—**Manchester.**—ELECTRIC INSTALLATIONS.—Electric lighting installations at the Cavendish, City-road, Burgess-street, and Abbott-street Municipal Schools, Manchester, for the Education Committee. Education Offices, Deansgate, Manchester. Deposit £1 1s.

NOVEMBER 16.—**Manchester.**—PIPES.—Supply of about 67 tons of cast-iron pipes, 3 in. and 4 in. in diameter, to the Gas Dept. Mr. G. Wm. Kaye, Secretary, Gas Department, Town Hall, Manchester.

NOVEMBER 16.—**Manchester.**—STEEL, &C.—Supply of 63 tons steel sheets and 30 tons flat and sectional iron, to the T.C. Mr. Robert Williamson, Superintendent of the Cleansing Department, Town Hall, Manchester.

NOVEMBER 18.—**Portsmouth.**—PUMPING PLANT.—Supply of four centrifugal pumps, electric motor, &c. Mr. G. Midgley Taylor, engineer, 36, Victoria-street, S.W. 1. Deposit £5.

NOVEMBER 19.—**Bexleyheath.**—Supply of twin built up lattice wrot-iron girder and other ironwork, to the U.D.C. Mr. T. W. House, Surveyor, Council Offices, Bexleyheath.

NOVEMBER 19.—**London.**—WATER MAIN.—Laying of 48 in. main, Malden to Clapham Park, for the Metropolitan Water Board, Chief Engineer's Dept., New River House, 173, Rosebery-avenue, E.C. Deposit £20.

NOVEMBER 21.—**Eccles.**—TANK.—Provision of a septic tank in connection with the Open-air School at Peel Green, for the T.C. Mr. Edwin Parkes, Town Clerk, Town Hall, Eccles.

NOVEMBER 21.—**London.**—BRIDGE RECONSTRUCTION.—Reconstruction and widening of Priests Bridge, carrying Upper Richmond-road over the Beverley Brook, for the L.C.C. Chief Engineer, County Hall, Spring-gardens, S.W. Deposit £5.

NOVEMBER 21.—**Manchester.**—PIPES, &C.—Supply to the T.C. of welded steel pipes, &c., and cast-iron special pipes, &c. Secretary, Waterworks Offices, Town Hall, Manchester. Deposit £5 for each of five contracts.

NOVEMBER 22.—**Manchester.**—CABLE BRIDGE.—Steelwork, cast ironwork, builders' work, &c., in cable bridge over the Bridgewater Canal at Longford Bridge, Stretford, for the T.C. Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester. Deposit £2 2s.

NOVEMBER 22.—**Tredegar.**—WATERWORKS.—Raising and widening of embankment of the Shon Sheffreys Reservoir, &c., for the U.D.C. Messrs. J. Taylor & Sons, engineers, 36, Victoria-street, Westminster, S.W. Deposit £5.

NOVEMBER 23.—**London.**—ELECTRIC INSTALLATION.—Installation of electric lighting cables, &c., throughout the training ship *Exmouth*, of Grays, Essex, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

NOVEMBER 23.—**Manchester.**—RAILWAY WORKS.—(1) Construction of a subway for the Manchester Corporation fourth line of water pipes (Thirlmere Aqueduct) under the railway at Horwich, (2) construction of footbridges at England-lane and Womersley-road level crossings, Knottingley, for the Lancashire and Yorkshire Rly. Co. Engineer's Office, Hunts Bank, Manchester.

NOVEMBER 25.—**London.**—RAILWAY MATERIAL.—Supply to the Bombay, Baroda, and Central India Railway Co.: (1) Material for the Construction of bogie carriages, &c.; (2) Parts for constructing bogie carriage underframes, &c.; (3) wheels and axles; (4) laminated bearing springs; (5) helical springs. Mr. S. G. S. Young, Secretary, 91, Petty France, Westminster, S.W.1.

NOVEMBER 26.—**Sheffield.**—REFUSE DEPOSIT PLANT.—For supply and erection of plant for refuse deposit works, for the T.C. Messrs. Mortimore, Lyon & Co., consulting engineers, Mansfield Chambers, St. Anns-square, Manchester.

NOVEMBER 28.—**London.**—BOILERS.—Supply to the London County Council of water tube boilers with superheaters and economisers, &c. Clerk of the Council, County Hall, Spring-gardens, S.W. 1. Deposit £2.

NOVEMBER 30.—**Norway.**—Construction and supply of eight bridges for the Jisalmi-Ghvieska Railway, for the Board of Ways and Water Communications. Department of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 2.—**Belgium.**—PORT.—Construction of fishing port at Ostend. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 5.—**South Africa.**—WEIGHBRIDGE.—Supply to the Rand Water Board of weighbridge capable of weighing 160,000 lbs. Department of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 19.—**Belgium.**—CANAL.—Construction of new channel from the Scheldt to the Docks at Antwerp. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 20.—**Costa Rica.**—WHARF.—Construction of reinforced concrete wharf at Puntarenes, for the Public Works Department.—Department of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 31.—**Siam.**—STEELWORK.—Supply of superstructures of steel railway bridges, for the Siamese State Railways. Messrs. C. P. Sandberg, 40, Grosvenor-gardens, London, S W. 1. Charge 10s.

NO DATE.—**Edinburgh.**—GAS PLANT.—Installation of vertical gas retorts with coal and coke handling plant, for the T.C. Mr. H. H. Gracie, Manager, 15, Caltonhill, Edinburgh.

ROAD, SANITARY, AND WATER WORKS.

NOVEMBER 12.—**Easington.**—WATER MAINS.—Construction of water distributing mains at the housing scheme at Horden, co. Durham, for the Easington R.D.C. Mr. J. Wilson Hays, architect, Wingate, co. Durham.

NOVEMBER 14.—**Carmunnock.**—ROADS, &C.—Construction of roads and sewers, &c., in connection with Carmunnock Housing Scheme, for the Lanark C.C. Mr. Jas. A. M'Callum, District Clerk, 15, West George-street, Glasgow. Deposit £1 1s.

NOVEMBER 14.—**Hay.**—VARIOUS WORKS.—Concreting, draining and erection of pens at Stock Market, for the U.D.C. Mr. H. Gilbey, surveyor, Hay, Hereford. Deposit. £1 1s.

NOVEMBER 14.—**Petworth.**—ROADS.—For steam rolling, for the R.D.C. Mr. Ernest H. Staffurth, Clerk, Petworth.

NOVEMBER 14.—**Southampton.**—ROAD WIDENING.—Widening of portion of the Avenue, for the T.C. Borough Engineer, Southampton. Deposit £1 1s.

NOVEMBER 15.—**Morley.**—ROADS.—Paving of a portion of Churwell-hill, in Leeds and Elland-road, for the U.D.C. Mr. F. Turner, Borough Engineer, Town Hall, Morley.

NOVEMBER 15.—**Salford.**—ROADS.—Sewering, tar-macadaming, and flagging works, for the T.C. Borough Engineer, Town Hall, Salford.

NOVEMBER 15.—**West Ashford.**—ROLLING.—For steam-rolling in the district, for the R.D.C. Mr. A. Sims, Surveyor, Tufton Hall, Ashford.

NOVEMBER 16.—**Birkenhead.**—PAVING.—For paving of passages, for the T.C. Mr. C. Brownridge, Borough Engineer, Birkenhead. Deposit 10s.

NOVEMBER 16.—**Bentley-with-Arksey.**—ROADS.—Making up of the back roads at the rear of the property of the Housing Site, Askern-road, for the U.D.C. Surveyor, Council Offices, Bentley.

NOVEMBER 16.—**Cheadle.**—DRAINAGE.—Drainage of the houses erected on Council's Housing Sites at Oak-road and Finney-lane. Mr. A. E. Jepson, Council's Housing Surveyor, Council Offices, Cheadle.

NOVEMBER 16.—**Failsworth.**—SANITARY WORKS.—(*a*) Plumber's work, (*b*) supply of sanitary fittings, (*c*) supply of glazed earthenware pipes for closet conversion scheme. Mr. J. W. E. Brown, Surveyor, Town Hall, Failsworth.

NOVEMBER 16.—**Llandaff.**—SEWERS.—Construction of certain lengths of stoneware and iron sewers of 9 in. in diameter, together with the necessary manholes, flushing, tanks, &c., at Rhoose Village, for the R.D.C. Mr. G. Midgley Taylor, engineer, Victoria-street, Westminster, S.W. 1. Deposit £5.

NOVEMBER 16.—**Wilmslow.**—PAVING.—For 300 square yards of granite paving, for the U.D.C. Mr. A. S. Cartwright, Surveyor, Council Offices, Wilmslow.

NOVEMBER 17.—**Richmond (Surrey).**—WOOD PAVING.—Paving an acre of 4,435 square yards in Red Lion-street, with creosoted deal blocks, for the T.C.: Mr. J. H. Brierley, Borough Surveyor, Town Hall, Richmond. Deposit £1 1s.

NOVEMBER 17.—**Uruguay.**—WATER AND DRAINAGE WORKS.—Construction of water and drainage works at San Jose. Department of Overseas Trade, 35, Old Queen-street, S.W.

NOVEMBER 17.—**West Riding.**—ASPHALTE REPAIRS.—Repairs to tarred asphalte playgrounds at the undermentioned schools: Cowling Council School, Darton Mapplewell Council School, Featherstone Council School. West Riding Education Architect, County Hall, Wakefield.

NOVEMBER 19.—**Halifax.**—SEWAGE WORKS.—Alterations to sedimentation tanks at sewage disposal works, for the T.C. Mr. A. C. Tipple, Borough Engineer, Halifax. Deposit £1 1s.

NOVEMBER 19.—**Harrow-on-the-Hill.**—ROADS.—Street improvements and works at (1)Vaughan-road, and (2) Bonnersfield-lane for the U.D.C. Mr. J. P. Bennetts, Surveyor, Council Offices, Harrow. Deposit £1.

NOVEMBER 21.—**Swinton.**—ROADS.—Road making and draining at the Swinton Cemetery Extension, for the Burial Board. Mr. J. H. A. Meadowcroft, Surveyor, 36, Wesley-street, Swinton.

NOVEMBER 21.—**West Riding of Yorkshire.**—ROADS.—Paving and footpath works in Saddleworth, Stanley, Berkley & Hippeholme, for the West Riding Highways Committee. Mr. H. R. Hepworth, Surveyor, County Hall, Wakefield. Deposit £1.

NOVEMBER 21.—**West Sussex.**—STEAM ROLLING.—Supply on hire of steam rollers, for the West Sussex C.C. Mr. H. W. Bowen, County Surveyor, North-street, Horsham.

NOVEMBER 22.—**London.**—SEWER.—Construction of brick and concrete sewer of varying sizes of a total length over all of nearly 2½ miles, in Wandsworth, for the L.C.C. Chief Engineer, County Hall, Spring-gardens, S.W. Deposit £5.

NOVEMBER 23.—**Skipton.**—SEWERAGE WORKS.—For construction of sewerage disposal works at Threshfield, for the R.D.C. Mr. A. Rodwell, engineer, 16, Gargrave-road, Skipton. Deposit £2.

NOVEMBER 23.—**Westoury.**—SEWAGE DISPOSAL WORKS.—Construction of sewage disposal works, for the U.D.C. Messrs. W. H. Radford & Son, engineers, Albion Chambers, Nottingham.

✱NOVEMBER 24.—**London, E.1.**—PAVING.—Making good in asphalte to defective parts of Girls' and Boys' Yards paving at the schools at Green-street, Upton Park, E., for the Guardians of the Parish of Saint George-in-the-East. Clerk to the Guardians, Guardians' Offices, Raine-street, Old Gravel-lane, E.1.

NOVEMBER 24.—**Uckfield.**—STEAM ROLLERS.—Hire of steam rollers, to the U.D.C. Mr. G. E. Hart, Clerk, Uckfield.

✱NOVEMBER 29.—**Greenwich.**—SEWER.—For a concrete, reinforced concrete, and an iron sewer of varying sizes, length about three-quarters of a mile, together with an outlet into the River Thames, for the L.C.C. Chief Engineer, County Hall, Spring Gardens, S.W. Deposit £5.

✱NOVEMBER 29.—**Hammersmith.**—SEWER.—For a brick and concrete sewer of varying sizes, of a total length of nearly 1¼ miles, and an outlet into the River Thames, for the L.C.C. Chief Engineer, County Hall, Spring Gardens, S.W. Deposit £5.

Competitions.

(*See Competition News, page* 631)

Auction Sales, Tenders, etc.

NOVEMBER 16.—**Gloucester.**—Messrs. Bruton, Knowles & Co. will sell, by direction of the Disposal Board, at the Docks, Gloucester (in the yard formerly occupied by Messrs. Adams & Son, timber merchants, entrance near to Llanthony Abbey), wood and iron buildings, machinery and a quantity of useful effects. Auctioneers, Albion Chambers, Gloucester.

✱NOVEMBER 23.—**Belvedere, S.E.**—Messrs. Herring, Son & Daw will sell at the R.A.O.C. Camp, Lessness Park, Belvedere, S.E., camp buildings, both boarded and corrugated iron construction, drainage accessories, &c. Auctioneers, 1000, Queen Victoria-street, E.C.4, and 312, Brixton-hill, S.W.2.

✱NOVEMBER 24.—**Shoreham-by-Sea.**—Messrs. Harris & Gillow will sell by auction, by direction of the Disposal Board, the camp buildings at No. 8 Battn. Lines, Shoreham Camp, comprising about 100 huts in timber and corrugated iron, &c. Auctioneers, 21, North Audley-street, London, W. 1, and Shoreham-by-Sea, Sussex.

NOVEMBER 30.—**Sydenham.**—Messrs. Dunn, Soman & Coverdale will sell, at the London Auction Mart, 155, Queen Victoria-street, E.C., the valuable freehold property known as 42A, Newlands Park, Sydenham. Auctioneers, 11, St. Helen's-place, E.C. 3.

Public Appointments.

NOVEMBER 16.—**Birmingham.**—Building Surveyor and Chief Architectural Assistant required by the City Council of Birmingham Public Works Committee. City Engineer and Surveyor, Council House, Birmingham, endorsed "Appointment of Building Surveyor and Architectural Assistant."

✱NO DATE.—**Chester.**—Temporary Architectural Assistant required by the Cheshire C.C. Mr. F. Anstead Browne, Lic.R.I.B.A., Deputy County Architect, 16, Nicholas-street, Chester.

✱NO DATE.—**London, N.7.**—Assistant Lecturer required by Northern Polytechnic Institute. Clerk to the Governors, Holloway, N.7.

TUBULAR SCAFFOLDING.

The illustration on this page shows the Russell Hotel, London, as it appeared when its front was being cleaned with the aid of tubular scaffolding, and illustrates the unobtrusiveness of this system. The scaffolding for this work was supplied by The Tubular Scaffolding Co., Ltd., of Upper Kennington-lane, Vauxhall, S.E.11, whose system has been largely used for various descriptions of building work, including housing schemes, coal hoppers, picture theatres, war memorials, warehouses, hotels, and office buildings. An advantage with this system is that no putlog holes are left to be bricked up. The tubes forming the system are easily jointed together, and as no one piece is longer than 12 ft. transport is much facilitated. It is interesting to note that the tubular scaffolding used for the erection of the London & North-Western War Memorial at Euston Station (and recently illustrated in our pages) was at very short notice converted into two stands to accommodate 600 persons at the opening ceremony.

This type of scaffolding is also suitable for the erection of towers for cranes, gantries, observation towers, &c., and has been extensively used for these purposes.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

AUDENSHAW.—Plans passed by U.D.C.: Mr. E. Robinson, motor garage, Droylsden-road; Mr. J. Bates, shop, Manchester-road; Mr. A. Armstrong, motor garage, Audenshaw-road; Mr. F. Sutcliffe, shed, station garage.

BANBRIDGE.—Improvements are to be carried out at the workhouse at an estimated cost of £3,350.

BARLBY.—The Architect for the East Riding of Yorkshire E.C. has been instructed to prepare detached plans for a school of steel and hollow terra-cotta or concrete blocks for the approval of the Board of Education.

BARROW.—The T.C. has had interviews with Vickers, Ltd., and the Furness Railway Co. on the proposed scheme for the construction of a new entrance to the channel and the widening of the passage into Barrow Docks to afford passage for the largest merchant or war ship afloat or contemplated. The negotiations are proceeding.—The Hospitals Committee has approved of plans for an extension to the administrative block of the Devonshire Hospital, and a new isolation block, at an estimated cost of £7,350.

BELFAST.—Plans passed: Shop and dwelling-house in Utility-street, for W. Murnin; rebuilding premises after fire in Bridge End, for T. Dixon & Sons, Ltd.; restoration of school tower in North Howard street, for trustees of Charters Memorial School; boundary wall in Rydalmere-street, for York Spinning Co., Ltd.; pavilion near Stranmillis-road, for the British Petroleum Sports Club; stables and sheds in Hatton-drive, for J. Mullins; house in Wood Vale-road, for D. Kilpatrick; alterations to premises in Ormeau-road for Linens, Ltd.; shop and store in Corporation-street, for D. Gamble & Sons; five dwelling houses in Grove-street East, for J. H. Barton; two houses in Vancouver-street, for J. MacIvor; conversion of dwelling-house into shop, &c., in Divis-street, for B. Hughes, Ltd. store in Great George's-street, for R. & W. Love; shop and dwelling house in Mersey-street, for Mrs. A. Mulholland; alterations to premises in Shankill-road, for A. Irwin; lock-up shop and store in Newtownards-road, for Mrs. E. J. Stewart; dwel ing-house in Meadow bank-street, for H. Armstrong; alterations to premises in Corn Market, for T. Sterling, Ltd.; shop in Wellwood-street and Glenalpin-street, for P. Lavery; and additions to shop and dwelling-house in Mill-street, for Mrs. A. E. Hill.

BINGLEY.—Plans passed by U.D.C.: Additions to house, King's-grove, for Mr. A. Parkinson; additions to house, King's-grove, for Mr. F. Bastow; alterations to mineral water works, Main-street, for Mr. J. W. Ryder; garage, Langley-avenue, for Mr. H. Womersley; Sunday school, St. Wilfrid's Church, Gilstead; shop, Main-street, for Mr. J. S. Driver.

BISHOP AUCKLAND.—The Ministry of Health has sanctioned the erection of 20 houses for the R.D.C.

BRADFORD.—An inspector of the Ministry of Health has held an inquiry respecting the application of the T.C. to borrow £100,000 for street widening purposes.

BRANDESBURTON.—A teacher's house is to be erected by the East Riding of Yorks E.C. early in the new year.

CAMBRIDGE.—Plans passed by T.C.: Four houses, Highworth-avenue, for Mr. L. Stuart Stanley; shelter, 54, Bridge-street, for Mr. H. J. Kittridge; open shed, 62, Marshall-road, for Mr. A. Tarbin; shop front, 36, Newnham-road, for Mr. A. Munns; warehouse, 258, Mill-road, for Messrs. Holliman & Sons; shop, 57, Burleigh-street, for the Cambridge Co-operative Society, Ltd.; bay windows, 42, Newmarket-road, for Mr. John Brignall; additions, 59, Victoria Park, for Mr. A. Green; grand stand, Milton-road, for the Trustees of the Cambridge Town F.C.; additions, Glebe-road, for Mr. H. Quinney; greenhouse, 10, Scroope-terrace, for Mr. C. J. Proctor; additions, &c., 276, Hills-road, for Mr. Sidney French; additions Hills-road, for Messrs. E. Lacon & Co., Ltd.

DOVER.—Plans passed by R.D.C.: Bungalow, Common-lane River, for Mr. T. Francis; hut, Whitfield, for Mr. Beaufoy; and hut at Minnis-lane, for Mr. McCracken.

EASINGTON.—A draft agreement with Sedgefield R.D.C. has been approved by Easington R.D.C. for the making of a new road between Trimdon Colliery and Trimdon Grange, Durham, at a cost of £10,750.

ERITH.—Plans passed by U.D.C.: House, North-road, Belvedere, for Mr. T. Cowing; house, Woolwich-road, Belvedere, for Mr. A. Feakes; extension to refinery and new turbo house, for the Erith Oil Works; house, Upper Holly Hill-road, for Mr. A. J. Connell; two houses, Park-crescent, for G. H. Gunning & Sons.

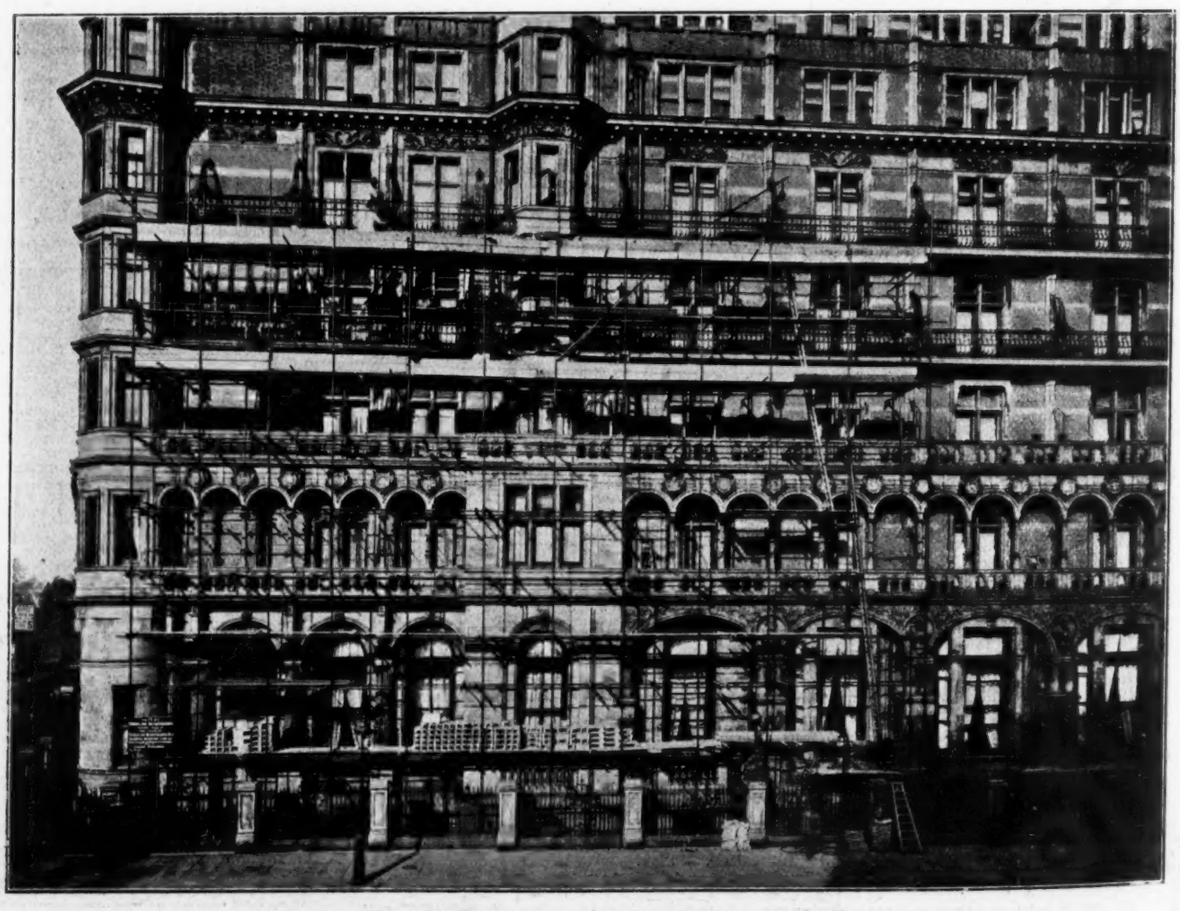
ETON.—Plans passed by R.D.C.: Bungalow, Cippenham-lane, for Mr. J. F. Heaton; bungalows, Mainprize estate, for Mr. C. H. Shackleford and Mr. Whitley; bungalow, Taplow station estate, for Mr. A. W. Whitlock.

HEMEL HEMPSTEAD.—Plans passed by R.D.C.: Alterations to "Halfway House," Bovingdon, for the Chesham Brewery Co.; bungalow, &c., at Bovingdon, for the Hon. W. E. G. Cornish.

ILKESTON.—Plans passed by T.C.: garage and petrol store, Manners-road, for Mr. W. H. Dawson; layout plan, Manor-gardens, for Messrs. Rastall & Smith; store, 7, Heanor-road, for Mr. H. Castledine, and motor shed, Back-lane; bungalow, Scarborough-avenue, for Mr. W. Bostock; wooden pavilion, station-road, for Mr. J. Cooke; garage, Manor-gardens, for Mr. F. Norman.

KEIGHLEY.—A recommendation of the Waterworks Committee that the construction of the service reservoir

* See also our List of Contracts, Competitions, etc.



Tubular Scaffolding at the Russell-square Hotel.

at Bracken Bank—in connection with the new waterworks at Sladen Valley—be proceeded with as soon as possible, at an estimated cost of £27,000, has been adopted by the T.C.

KNARESBOROUGH.—The R.D.C. is being requested to lay a sewer to serve buildings on its side of the River Nidd in connection with the rebuilding of the bridge by the West Riding C.C.

LONDON (BATTERSEA).—The Housing Commissioner has sanctioned the erection by the B.C. of 52 houses on the Latchmere Estate.

LONDON (BERMONDSEY).—Plans passed by B.C.: Lavatory accommodation, 109 and 111, Tooley-street, Messrs. T. Wisbey & Sons, for Mr. J. Tischoff; sanitary improvements, 227-239, Tooley-street, Messrs. Parr & Sons, for C. Knight & Co., Ltd.; drainage of warehouse, 156-174, Bermondsey-street, for Messrs. Barrow, Hepburn & Gale.

LONDON (CLAPHAM).—The L.C.C. proposes to lower the roadway under the bridge carrying the South-Eastern Railway over High-street, at an estimated cost of £6,500.

LONDON (DEPTFORD).—The L.C.C. has sanctioned the borrowing of £40,000 by the B.C. for repaving works.

LONDON (HACKNEY).—Plans passed by B.C.: Shop premises and drainage, 373 and 375, Mare-street, for Mr. M. W. Matts; sanitary accommodation, 36, Kingsland High-street, for Messrs. Hayworth & Sons.

LONDON (HAMMERSMITH).—The demolition of the convent in Fulham Palace-road, Hammersmith, has been started; it is understood that the site has been acquired for the erection of industrial dwellings.

LONDON (ISLINGTON).—The B.C. has decided to carry out a modified scheme of municipal offices at an estimated cost of £74,000.

LONDON (LAMBETH).—Plan passed: Addition to workshop, Richmond-terrace, Clapham-road, for Mr. A. Withers.

LONDON (STREATHAM).—Addition, 6, Leigham Court-road, Messrs. Yeomen, Spriggs & Co., for the Yokohama Specie Bank, Ltd.

LONDON (WALTHAMSTOW).—Plans passed by U.D.C.: Two houses, Forest View-road, Messrs. C. C. Neal & Son, for Mr. W. Price; alterations to shop, 24, High-street, for Messrs. David Hall & Co.; additions to house, 59, Palmerston-road, for Messrs. Jno. Hamilton & Son; motor garage, Beulah-road, for Messrs. J. & J. Dean; alterations to studio, 245, Wood-street, for Messrs. H. Wakeford & Sons; dairy, 74, Blackhorse-lane, for Messrs. West Bros. & Petitt.

MAIDSTONE.—Plans passed by R.D.C.: Messrs. Clarke & Epps, house at Loose, for Mr. H. Barker; Messrs. R. Corben & Son, extension of Tovil Works, East Farleigh, for Messrs. Alabaster, Passmore & Co.; Mr. A. L. Dartnell, West Malling, wooden bungalow at Yalding, for Mr. T. Walton, London; Messrs. Clarke & Epps, bungalow at Dean-street, East Farleigh, for Mr. T. Rouse, Maidstone; offices and drainage at the new market at Marden, for Mr. E. J. Parker, Maidstone.

MANCHESTER.—Plans approved: Alterations to boiler house, &c., to works, Tipping-street and Bond-street, Ardwick; drains to bank, 544, Ashton Old-road and Pottery-lane, Openshaw; conversion of Tivoli Music Hall into picture theatre, Peter-street and Windmill-street; drains to three houses, Ackroyd-avenue, Gorton; alteration to "Brewers' Arms," No. 19, Rochdale-road and Kenyon-street; sausage factory, Willow-street, Cheetham; reconstruction of rope walk, West-street, Clayton; addition to cotton mill, Carruther-street and Pollard-street, Ancoats; alteration to premises, 213, Oxford-road, Chorlton-upon-Medlock; addition to works, Stockport-road, West Gorton; addition to house, 3, Birch Polygon, Rusholme; dwelling-house, Essex-avenue, Fog-lane, Didsbury; alterations and additions to premises, 301, Stockport-road and Westmoreland-street; alterations to premises, 127, Stockport-road, Ardwick; conversion of house into shop and house, 70, Dickenson-road, Rusholme; engine house to works, Pembroke-avenue, Chorlton-upon-Medlock; alterations and additions to premises, "Wellfield," Upper Chorlton-road, Moss Side; stores and alteration to dwelling-house, 39, Percy-street, Hulme; picture theatre, Claremont-road and Lloyd-street South, Withington; picture theatre, cafe, and ball-room, Wilmslow-road, Rusholme.

NORTHENDEN.—The Rector of Northenden has informed the Church Council that portions of the Parish Church tower are in a dangerous state and require immediate attention. It is believed some parts of the tower will have to be taken down.

PAULL.—Plans for the improvement of the school are to be prepared by the Architect to the East Riding E.C.

PLYMOUTH.—Plans passed by T.C.: Mr. A. N. Coles, bungalow, Mutley-road; Mr. L. Davey, addition to Leigham House, Citadel-road; Messrs. Rooker Mathews & Co., strong-room, &c., rear of 7, Sussex-terrace Mr. F. Westcott, lay-out of Crest-hill Estate, Bladderley-lane; Mr. F. Westcott, pair of semi-detached dwelling-houses, Bladderley-lane; Mr. B. Petherick, dwelling house, Weston Mill.

RATHMINES.—An inquiry has been held into the application of the U.D.C. to borrow £192,758 for the erection of working-class dwellings.

RIPON.—Plans passed by T.C.: Wash-house, 12, Newby-street, for Mr. Coldbeck; motor garage, Palace-road, for Mr. Brayshay (temporary building); drains, Magdalen's Farm, for Mr. Ellis.

ROTHERHAM.—The T.C. is making application to the Ministry of Health for sanction to borrow £28,000 for extensions at Aldwarke sewage outfall works.—Plans passed by T.C.: Mr. John Clarke, Fenton-street, Bradgate; Mr. John Arthur Gilbert, 54, Holland-street, shed; Mr. William Moorhouse, 138, Fitzwilliam-road, garage; the Anglo-American Oil Co., Ltd., Station-yard, Westgate, motor spirit depot; Messrs. Yates, Haywood & Co., Effingham Works, Thames-street, garage; Messrs. Tennant Bros., Ltd., Bridge-gate, alterations to the "Red Lion" Hotel; John Smith Tadcaster Brewery Co., alterations to "High House" Hotel.

ST. HELENS.—Plans passed by T.C.: Alterations to Y.M.C.A. Buildings, North-road, for Trustees of Y.M.C.A.; workshop, Elephant-lane, for Mr. T. Smith; estate plan showing bungalows, Forest-road, Sutton Manor, for Sutton Manor Colliery Co., Ltd.

STRETFORD.—Plans passed by U.D.C.: Extension of cinema operating box, Third-avenue, for Trafford Park Estates, Ltd.; workshops, &c., Park-road, for Messrs. D. Anderson & Son, Ltd.; motor room, Elevator-road, for Messrs. John Greenwood & Son, Ltd.; sewering, Mosley-road extension, for Trafford Park Estates, Ltd.; extensions to works, Trafford Park, for Metropolitan-Vickers Electrical Co., Ltd; two signs, Trafford Park-road, for the Lancashire Dynamo & Motor Co., Ltd.

SUTTON (YORKSHIRE).—Plans for a house, for the head teacher of the Council School, are to be prepared by the Architect to the East Riding E.C.

WOMBWELL.—The Wombwell Urban District Council is about to extend its sewerage scheme, at a cost of £40,000. The engineers are Messrs. David Balfour & Son, 3, St. Nicholas Buildings, Newcastle-upon-Tyne. The successful contractors are Messrs. Swift Bros. & Haslam, of South Elmsall, near Doncaster.

WORTHING.—Plans passed by T.C.: Addition to West Villa, Mr. J. E. Lund, for Mr. W. Lund; alterations to shop windows, 22 and 24, Montague-street, Mr. B. J. Blaker, for Messrs. Kinch Bros.; alterations and additions to Lloyds Bank, South-street, and adjoining offices, Mr. J. P. Briggs, for Lloyds Bank, Ltd.; house, Grand-avenue, for Messrs. J. I. Williams & Sons; garage, 4, Selden-road, Messrs. Bridger & Son, for Miss Govan; house, Windsor-road, for Mr. S. H. Burdwood; addition, "Ardsheal," Broadwater Green, Mr. E. W. Sparkes, for Mr. Carmichael.—The T.C. has decided to erect screens at the pier at a cost of about £3,000.

FIRES.

CHELMSFORD.—The workshops and plant of Messrs. Brown & Sons, Ltd., timber merchants, have been burned out.

CROCKETFORD.—Milton School, near Crocketford, has been completely destroyed by fire.

DUDLEY.—The mill of Messrs. N. Hingley & Sons, Netherton, has been damaged by fire.

EDINBURGH.—An outbreak of fire has occurred in a store occupied by the Michelin Motor Tyre Co., at Rose-street, North-lane.

LEEDS.—Damage to the extent of about £2,500 has been caused by a fire at a garage, 345, Kirkstall-road. The premises are owned by Mr. William Austin, 13, Hope Mount, Armley.

NEW OSCOTT.—A fire has occurred at the garage of the "Beggar's Bush" Inn, occupied by Mr. A. Marson.

Proposed Public Works at Canterbury.

In connection with its scheme for the relief of local unemployment, the Canterbury Corporation proposes to put in hand the following works: Main surface water drainage, St. Martin's Hill to Broad-street; construction of three new humus tanks; external and internal painting and decorating at Beaney Institute; external and internal painting and decorating at the Corn Exchange.

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CAPITAL SUBSCRIBED	£70,688,980
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DEPOSITS, &c. - -	346,397,553
ADVANCES, &c. -	151,079,173

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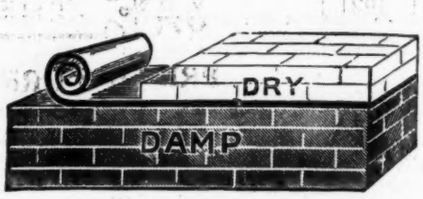

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PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue various revisions have been made.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s. d.

Best Stocks 5 0 0

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	3 15 0	Best Blue Pressed Staffordshire ...	11 1 6
Best Stourbridge Fire bricks	12 14 0	Do. Bullnose ..	11 11 6
		Blue Wire Cuts	9 4 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers ..	26 0 0	D'ble Str'tch'rs	34 10 0
		D'ble Headers	31 10 0
Headers.....	25 10 0	One Side and two Ends ..	35 10 0
Quoins, Bullnose and 4½in. Flats	32 10 0	Two Sides and one End	36 10 0
		Splays and Squints.....	34 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.	
Thames Ballast	14 0	per yard, delivered 2 miles radius Paddington.
Pit Sand	17 0	" "
Thames Sand	19 0	" "
Best Washed Sand	19 0	" "
¼in. Shingle for Ferro-Concrete	19 0	" "
½ in. " "	20 0	" "

Per ton, delivered in London area.

	£ s. d.		£ s. d.
Best Portland Cement	3 17 6	..	4 3 0

70/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above 10 0

Best Ground Blue Lias Lime 2 19 8 at rly. depot.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 3d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 65s. 6d. per ton delivered.

Stourbridge Fireclay in s'cks 44s. 8d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube.....	3 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	3 5½
Do. do. delivered on road wagons at Nine Elms Depot	3 6½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 11½
Do. do. delivered on road wagons at above stations, per ft. cube..	5 0½
White basebed, 3d. per ft. cube extra.	

NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

YORK STONE, BLUE—*Robin Hood Quality*.

	s. d.
Delivered at any Goods Station London.	
Scappled random blocks .....Per Ft. Cube	12 0
6 in. sawn two sides landings to sizes (under 30 ft. super.) .....Per Ft. Super	7 4½
6 in. rubbed two sides, ditto ..... "	8 0½
3 in. sawn two sides slabs (random sizes) "	3 3
2 in. to 2½ in. sawn one side slabs (random sizes) ..... "	2 1
1½ in. to 2 in. ditto, ditto ..... "	1 9
HARD YORK—	
Delivered at any Goods Station London.	
Scappled random blocks .....Per Ft. Cube	8 0
6 in. sawn two sides landing to sizes (under 40ft. super.) .....Per Ft. Super	7 0
6 in. sawn two sides ditto ..... "	8 0
4 in. sawn two sides slabs (random sizes) "	3 11
3 in. ditto, ditto "	3 1
2 in. self-faced random flags ..Per Yard Super	10 6

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	40 0	per standard
4 × 9	35 0	"
4 × 8	30 0	"
4 × 7	30 0	"
3 × 8	30 0	"
3 × 7	30 0	"
2½ × 7	25 0	"
3 × 6	25 0	"
3 × 11	37 10	"
2 × 11	38 0	"
3 × 9	35 0	"
2½ × 9	35 0	"
3 × 4½	25 0	"
3 × 4	22 0	"

PLANED BOARDS.

1 × 11	52 10	"
1 × 9	47 10	"

PLAIN EDGE FLOORING.

Inches		
½	20/-	per square
¾	22/6	"
1	25/-	"
1¼	32/-	"
1½	37/6	"

TONGUED AND GROOVED FLOORING.

Inches		
1	25/-	per square
1¼	32/-	"
1½	37/6	"

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
½	17/6	per square
¾	20/-	"
1	27/6	"

BATTENS.

Inches	s. d.	
¾ × 2	3 3	per 100 ft.

SAWN LATHS.

Per bundle	0 4	0

Dry Wainscot Oak, per ft. super, as inch	0	2	6	to	0 3 0
¼ in. do. do.	0	1	10½	to	0 2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	3	to	0 3 0
Cuba Mahogany	0	3	6	to	0 4 0
Teak (Rangoon, Moulmein or Java), per load.. ..	52	10	0	to	55 0 0
American Whitewood planks, per ft. cube ..	0	16	0	to	0 18 0
Best Scotch Glue, per cwt.	10	0	0	to	—
Liquid Glue, per cwt.....	5	8	0	to	6 15 0

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	56 10 0
" "	22 by 12	46 0 0
First quality " "	22 by 11	42 10 0
" "	20 by 12	42 0 0
Best Blue Portmadoc	20 by 10	36 10 0
" "	18 by 10	29 10 0
First quality "	18 by 9	24 5 0
" "	16 by 10	22 15 0
" "	16 by 8	18 0 0

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district.....	7 15 0
Ditto hand-made ditto.....	8 10 0
Ornamental ditto	7 7 6
Hip and valley tiles (per dozen)	0 15 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	17 0 0
Plain Compound Girders	20 0 0
" Stanchions	23 0 0
In Roof Work	28 0 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £15 net value delivered direct from works. 5 per cent. less above gross discounts, carriage forward if sent from London stocks.)

	Tubes. ¼" to 2".	Tubes. 2¼" to 6".	Fittings. ¼" to 2".	Fittings. 2¼" to 6".
Gas.....	—32½	—37½ ..	—32½	—37½
Water	—25	—30 ..	—25	—35
Steam	—17½	—22½ ..	—20	—32½
Galv'd Gas	—15	—20 ..	—25	—30
" Water	— 6½	—11½ ..	—17½	—27½
" Steam	+ 2½	—2½ ..	—12½	—25

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.		Bends, stock angles. s. d.		Branches, stock angles. s. d.	
2 in. per yd. in 6fts plain	5	1 ..	3	7 ..	4	4
2½ in. " "	6	1 ..	3	11 ..	5	5
3 in. " "	7	3 ..	4	4 ..	6	6
3½ in. " "	7	11 ..	5	5 ..	7	6
4 in. " "	9	1½ ..	6	1 ..	8	7

RAIN-WATER PIPES, &c.

	Pipe. s. d.		Bends, stock angles. s. d.		Branches, stock angles. s. d.	
2 in. per yd. in 6fts. plain	3	9 ..	2	2 ..	3	0
2½ in. " "	4	2 ..	2	7 ..	3	6
3 in. " "	4	9 ..	3	1 ..	4	8
3½ in. " "	5	6½ ..	3	9 ..	5	6
4 in. " "	6	4 ..	4	6 ..	6	8

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices. per yd.: 4 in., 8/4. .. 5 in., 10/2. .. 6 in., 12/3.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	18 10 0	to	19 10 0
Staffordshire Crown Bars — good merchant quality	19 10 0	..	20 10 0
Staffordshire "Marked Bars"	24 0 0	..	25 0 0
Mild Steel Bars	16 0 0	..	17 0 0
Steel Bars, Ferro-Concrete quality, basis price ..	16 10 0	..	17 0 0
Hoop Iron, basis price ..	24 0 0	..	25 0 0
" Galvanised ..	38 0 0	..	40 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	23 0 0	..	25 0 0
" " " 24 g.	24 0 0	..	26 0 0
" " " 26 g.	26 0 0	..	27 0 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality— Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	30 0 0	..	32 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.....	31 0 0	..	33 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g...	33 0 0	..	35 0 0
Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9ft. 20 g.	27 0 0	..	28 0 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	28 0 0	..	29 0 0
Ordinary sizes, 6ft. to 9ft. 26 g.	30 0 0	..	32 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker ..	33 0 0	..	34 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	34 0 0	..	35 0 0
Best Soft Steel Sheets, 26 g.	36 0 0	..	37 0 0
Cut Nails, 3in. to 6in. .. (under 3in. usual trade extras.)	27 0 0	..	28 0 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 3s. per foot super.

LEAD, &c.

	Delivered in London. £ s. d.		
LEAD—Sheet, English, 4 lb. and up	35 10 0	..	—
Pipe in coils	36 0 0	..	—
Soil Pipe	38 10 0	..	—
Compo pipe	39 10 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	20	0 0	.. —
Do., ex country, carriage forward..... per ton	21	0 0	—
COPPER— Strong Sheet ....per lb.	0	2 3	—
Thin " ..... "	0	2 4	.. —
Copper nails .... "	0	2 3	.. —
Copper wire ..... "	0	2 4	.. —
TIN—English Ingots "	0	1 9	.. —
SOLDER—Plumbers' "	0	0 11	.. —
Tinmen's..... "	0	1 2	.. —
Blowpipe ..... "	0	1 4	.. —

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

Per Ft.		Per Ft.
15 oz. fourths	4½d.	32 oz. fourths .... 10½d.
" thirds	5½d.	" thirds 1/-
21 " fourths	6½d.	Fluted, Obscured and
" thirds	7½d.	Enamelled Sheet,
26 " fourths	8d.	15 oz. 7d.
" thirds	9½d.	21 " 9d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES. Per Ft.

⅛ Rolled plate	5½d.
⅛ Rough rolled	6½d.
¼ Rough rolled	7½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	7½d.
Ditto, tinted	9½d.
Rolled Sheet	6½d.
White Rolled Cathedral.....	6½d.
Tinted do.	7½d.

Cast Plate is ½d. extra on the price of rough rolled.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil in pipes..... per gallon	0	3 1
" " " in barrels .... "	0	3 2
" " " in drums .... "	0	3 4
Boiled " " in barrels .... "	0	3 6
" " in drums .... "	0	3 8
Turpentine in barrels ..... "	0	6 0
" in drums (10 gall.) .. "	0	6 3
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	57	5 0

GENUINE WHITE LEAD PAINT—

"Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots .....per ton delivered	78	10	0
Red Lead, Dry (packages extra) .. per ton	41	0	0
Best Linseed Oil Putty ..... per cwt.	0	17	6
Filocol..... per cwt.	0	15	6
Size. XD Quality..... fkn.	0	4	9

VARNISHES, &c.

	Per gallon. £ s. d.	
Oak Varnish.....Outside	0	15 0
Fine ditto ..... ditto	0	17 2
Fine Copal ..... ditto	1	1 0
Pale Copal ..... ditto	1	2 6
Pale Copal Carriage ..... ditto	1	4 0
Best ditto ..... ditto	1	14 6
Floor Varnish..... Inside	0	19 0
Fine Pale Paper ..... ditto	0	18 0
Fine Copal Cabinet ..... ditto	1	2 6
Fine Copal flatting ..... ditto	1	0 6
Hard drying Oak ..... ditto	0	18 0
Fine Hard drying Oak ..... ditto	0	19 0
Fine Copal Varnish ..... ditto	1	0 6
Pale ditto ..... ditto	1	2 6
Best ditto ..... ditto	1	14 6
Best Japan Gold Size.....	0	12 6
Best Black Japan	0	18 0
Oak and Mahogany Stain (water)	0	17 6
Brunswick Black	0	11 0
Berlin Black.....	0	16 6
Knotting (patent)	1	16 0
French and Brush Polish	1	8 0
Liquid Dryers in Terebine	0	13 6
Cuirass Black Enamel	0	7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	16	0
Add if in clay	" "	1	10
Add for every additional depth of 6 ft.	" "	1	4
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	43	0
Add if in underpinning in short lengths	" "	9	6
Add if in floors 6 in. thick	" "	3	10
Add if in beams	" "	4	9
Add if aggregate 1 : 2: 4	" "	12	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	4	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	43	10	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	29	0	0
Add if in Portland cement and sand	"	4	0	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1¼

POINTING.

		s.	d.
Neat flat strucks or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	11½
Axed in stocks	" "	0	1	11
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	8

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	6
Setting ordinary register grates and stoves	each	1	2	6
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	6	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	7	6
Three-quarter-inch vertical damp course	" "	11	8
¾ inch on flats in two thicknesses	" "	8	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	4

MASON.

		s.	d.
York stone templates fixed	per foot cube	18	0
York stone sills fixed	" "	31	6
Bath stone and all labour fixed	" "	15	0
Portland stone fixed	" "	23	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	98	0
Do. 20 in. × 10 in. Do. Do.	"	115	0
Do. 24 in. × 12 in. Do. Do.	"	117	6

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	7	0
Do. joists	" "	8	0
Do. roofs, floors and partitions	" "	8	0
Do. trusses	" "	10	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	42/-	48/-	56/-	85/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	63	0
Do. to beams	per ft. sup.	1	6
Centres for arches	"	2	0
Gutter boards and beams	"	1	8

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	2/-	2/3	2/9	3/3

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	11
Two Do. Do. Do.	" "	2	4½
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights ; average size	" "	4	11

DOORS.

		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/6	2/9	2/11
Four-panel Do.	"	2/10	3/2	3/5
Two-panel moulded both sides	"	3/2	3/5	3/8
Four-panel Do. Do.	"	3/6	3/9	4/-

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	19	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/11	2/-	2/3
Deal shelves and bearers	"	1/8	1/10	2/1
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

		1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets		2/10	3/6	4/-	—	—
Deal strings wrot in both sides and framed		3/10	4/1	—	—	—

		s.	d.
Housings for steps and risers	each	0	11½
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail ; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4½
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	22	0
Plain compound girders	"	25	0
Do. stanchions	"	28	0
In roof work	"	34	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10½
Copper nailing	" "	0	7

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		
Do. soil	"						6/2
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	2
Do. Do. Sirapite	" "	3	7
Do. Do. Keen's	" "	4	9
Add sawn lathing	" "	1	11
Add metal lathing	" "	3	4
Portland cement screed	" "	2	9
Do. plain face	" "	4	6
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	7

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	2
26 oz. Do.	" "	1	6
Obscured sheet	" "	1	8
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	3
Knotting and priming	" "		8
Plain painting 1 coat	" "	1	0
Do. 2 coats	" "	1	9
Do. 3 coats	" "	2	6
Do. 4 coats	" "	3	3
Graining	" "	2	8
Varnishing twice	" "	2	0
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	6
Wax polishing	per foot sup.	0	10½
French polishing	" "	1	3
Preparing for and hanging paper	per piece	2/- to 5/-	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1¼ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

GRAPHIC CINEMA CO., LTD. (177,070). Registered Oct. 1. H.11, Exchange-buildings, Liverpool. To acquire land off West Derby-road, Liverpool, and to erect thereon a picture house. Nominal capital, £20,000.

C. E. WILKINSON, LTD. (177,097). Registered Oct. 4. 49, Marloes-road, Kensington, W.8. Builders and contractors. Nominal capital, £7,000.

MECHANICAL TAR-SPRAYING AND GROUTING CO., LTD. (177,112). 13, Leathley-road, Hunslet, Leeds. Registered Oct. 4. Nominal capital, £15,000.

GEO. W. NEWMAN & SONS, LTD. (177,103). Registered Oct. 4. 13, The Parade, Upper Brockley-road, S.E.4. Builders and decorators. Nominal capital, £1,500.

A. T. GRESHAM, LTD. (177,122). Registered Oct. 5. 19–20, Queen Anne-road, South Hackney, E.8. Builders' merchants, glass and lead dealers, &c. Nominal capital, £16,000.

Builders' Estates.

The late Mr. Charles E. Wilkinson, of Kensington, builder, left estate valued at £25,837.

Mr. Walter Upton, plumber, painter and decorator, of Coleshill, Warwick, who died on May 31, left estate valued at £10,639.

A former secretary of the Goole Master Builders' Association, and a well-known builder in the district, Mr. Thomas Prentice, who died on July 28, left an estate of £2,224.

Mr. Robert G. Kewlish, of Birkenhead, builder, who died on September 25, at the age of 59 years, left estate valued at £15,290.

The London Building Acts, 1894 to 1921.

Messrs. Edward Stanford, Ltd., will publish shortly a revised and enlarged edition of Mr. Bernard Dicksee's book on the London Building Acts. The book will be published in two forms, as a complete book comprising all the Acts from 1894 to 1921 (with the by-laws and regulations), and also as a supplement to the 1908 edition (comprising the Acts from 1909 to 1921, with regulations). Both forms will include a complete digest of law cases to date.

The Building Guilds.

Under the auspices of the Newcastle District Building Guild and the local Labour Party, a demonstration of trade union guilds was held at Newcastle on November 6, the speakers including Mr. S. G. Hobson, Secretary, of the National Building Guilds. Explaining the operations of the Building Guilds, Mr. Hobson said the only possible alternative to the wage contract was for the workers to control the industry themselves, and to see to the distribution of profits. The Guild was founded on a decision not to sell labour as a commodity. During a year's trading by the Building Guilds they had paid over half-a-million pounds for work done for the community, and had saved the people ten million pounds through their tendering.

The Mayor of Dover.

Mr. Richard James Barwick, the newly-elected Mayor of Dover, is a well-known builder and contractor in Dover. He started his career with Messrs. Walter Lawrence & Sons, of London, and twenty years ago, on the retirement of his uncle, Mr. J. A. Masey, builder and contractor, Dover, he took over the business, which he has extensively developed. He has carried out a number of contracts for the Admiralty and the military authorities. Mr. Barwick has been a member of Dover Town Council for ten years, and has been Deputy-Mayor during the past twelve months, Chairman of the Tramways Committee for about eight years, Chairman of the Pier District Improvement Committee, and an Overseer for the Borough for some years past.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than Tuesday evening*.

*Denotes *accepted*. †Denotes *provisionally accepted*. ‡Denotes *recommended for acceptance*. §Denotes *accepted subject to modifications*.

AUDENSHAW.—Supply of 300 tons of 4 in. by 5 in. granite setts, for the U.D.C. :—
*Brookes, Ltd., Manchester, per ton.. £3 8 6

BELFAST.—For plumbing and gas-fitting works in houses on (*a*) the Cherryvalley Estate; and (*b*) the Dundele Estate :—
*John Dowling & Sons (*a*)..... £4,126 0
Do. (*b*)..... 2,542 15

BENTLEY.—Erection of pumping station at Arksey, for the U.D.C.
*H. C. Pullar & Co., Manchester.... £1,411
W. Mullins, Doncaster..... 1,953

BIRMINGHAM.—For erection of a picture theatre at Sparkhill. Mr. C. Sharp-Smith, architect, 14, Bult-street, Birmingham. Quantities by the architect :—
T. Elvins & Sons, Birmingham £20,170
E. Crowder, Birmingham 20,117
Maddocks & Walford, Birmingham 19,592
*George Webb & Son, Ltd., Birmingham 19,515

CHURWELL.—For the erection of central premises, for the Churwell Industrial Co-operative Society, Ltd. :—

*Co-operative Wholesale Society, Ltd., Manchester	£10,740 0 0
F. Hayes, Liverpool.....	15,372 4 6
Jas. Clegg & Sons, Morley ..	11,738 0 0
J. Pulland & Sons, Beeston, Leeds	12,391 0 0
Airey & Son, Leeds.....	16,798 0 0
W. Birch & Son, York.....	10,581 0 0
Harrison Splensley, Morley..	10,858 0 0

COTTINGLEY BRIDGE (YORKS).—For the erection of a new cricket pavilion, for the Bingley Cricket and Bowling Club. Mr. F. Atkinson, M.S.A., architect, Old Bank Chambers, Bingley. Quantities by architect :—
*T. H. Clark & Sons, Bingley—*Excavator and bricklayer.*
*Greenlow & Murgatroyd, Keighley—*Carpenpenter and joiner.*
*E. & T. Brook, Bradford—*Roof tiler.*
*Jos. Dyson, Shipley—*Plumber, &c.*
*W. Spurr, Bingley—*Plasterer, &c.*
Total, £1,095.

CRESSBROOK.—For erection of war memorial :—
Arthur Dane, Sheffield £178
*J. W. Boden, Matlock 175

EAST RIDING OF YORKSHIRE.—Alterations and additions at Mann Farm and at Whatlings Farm, Preston, for the C.C. Agricultural Committee :—
*Smith Bros. £1,719 6 6

GRIMSBY.—For two additional galleries at the Public Free Library. Mr. H. Gilbert Whyatt, M.Inst.C.E., Borough Engineer :—

*W. Ton, New Cleethorpes.....	£158 16 8
J. Borrill, Grimsby.....	204 9 6
East & Graves, Grimsby	207 2 0
H. & C. Thompson Bros., Grimsby	239 19 6
Swaby & Walsham, Grimsby....	260 2 4
J. A. Thomas, Grimsby.....	276 15 2
E. Marshall, Grimsby	282 3 0
W. M. Robertshaw, Caistor....	299 0 0

LEEDS.—Supply of 1,000 yds. of fire hose, to the T.C. :—
*W. J. Monk & Son..... £506 5

LEEDS.—For (*a*) two electrically driven air compressors; (*b*) motors, starters, &c., at Sewage Works, for the T.C. :—
*S. H. Johnson & Co. (*a*)..... £1,684
(*b*)..... 1,062

LEEDS.—For tiling works at Headingley Pumping station, for the T.C. :—
*Edwin Briggs, Ltd..... £235 10

LEEDS.—For re-asphalting roof of boat house at Roundnay Park, for the T.C. :—
*Northern Asphalte Co..... £770

LEEDS.—For new office, &c., at Hunslet Cemetery, for the T.C. :—
*J. Ferguson & Son..... £450 16

LLANDAFF.—For construction of about 236 lineal yds. of 9-in. earthenware pipe sewers in the parish of Waitcheuch, for the R.D.C. Mr. William Farrow, surveyor, 20, Park-place, Cardiff :—

*Rogers & Davies, Ltd., Cardiff..	£325 10 0
William E. Lewis, Dinas Powis..	329 4 0
Edgar Evans, Llandaff.....	339 18 0
Wren & Hall, Newport.....	345 0 0
Barnes, Chaplin & Co., Cardiff..	347 12 0
Edwin Williams & Son, Whitcheush	379 4 0
J. W. Mildon, Cardiff.....	383 12 4
Walter E. Lewis, Dinas Powis..	404 8 0
Shail (Llandaff), Ltd., Llandaff..	454 0 0
R. A. Long, Cardiff.....	474 2 0
Osborn & Newcombe, Cardiff....	602 10 0

LONDON.—Supply of mechanical stone-breaker, to the Islington B.C. :—
*Goodwin, Barsley & Co., Leicester £623 0
F. Parker, Leicester..... 326 5

LONDON.—Provision of three pairs of gasholders and fittings at Harrow-road gas meter testing office, for the L.C.C. :—
*Parkinson & W. & B. Cowan, Ltd. (Parkinson Branch), E.C..... £970 0
Thomas Glover & Co., Ltd., Edmonton 970 0
George Glover Ltd., Chelsea..... 995 0
Gas Meter Co., Ltd., E..... 997 10

LONDON.—Maintenance of the carriageway pavement at eastern end of Leadenhall-street, for the City Corporation :—
*Val de Travers Asphalte Co... 2s. 9d. per yard super per annum (two years).

LONDON.—Supply of 500 tons of 2 in. broken granite, to the Lambeth B.C. :—
*A. & F. Manuelle..At prices from 31s. 6d. to 36s. per ton, according to place of delivery.
*Granite, Lime & Clinker, Ltd...At from 30s. 3d. to 32s. 6d. per ton.

LONDON.—Laying of compressed asphalte paving in York-road, for the Lambeth B.C. :—

	Laying (exclusive of foundations).	Five years' maintenance.
*Limmer & Trinidad Asphalte Co.	£1,292 5 0	£430 15
Val de Travers Asphalte Co.	1,335 6 6	430 15
London Asphalte Co...	1,356 17 3	430 15
French Asphalte Co...	1,421 9 6	430 15

LONDON.—Repairs to Cleansing Superintendent's house, for the Lambeth B.C. :—

*Samuel T. Wright, Kennington..	£111 10 8
John J. Woollaston, Tottenham	124 15 0
W. Mountain, S.W.9.....	139 18 6
Bradshaw & Bradshaw, S.W.8..	141 3 0
W. A. King, Brixton.....	141 14 6
Roger, Haslam & Son, Woolwich	146 3 0
F. Jobson & Co., Hampstead....	146 7 1
Baker & Sons, Brixton.....	146 14 9
H. King & Son, Peckham.....	158 18 6
Geo. Candler & Sons, Streatham	169 18 7
W. Palmer, Herne Hill.....	174 0 0
Bargmans, Ltd., E.C.4.....	180 3 5
Borough Engineer's tender for carrying out the work by direct labour.....	182 9 8
Joseph A. Jolly, Tulse Hill....	194 10 6
Guild of Builders (London), Ltd., W.C.1	199 0 0
J. Parsons, S.E.1.....	205 0 0
Arthur Phelps & Wilton, Ltd., Streatham	224 0 5
Crabb & Son, Tulse Hill.....	229 12 0
J. S. Voak, E.C.2.....	270 0 0
Yates & Yates, W.1.....	371 5 0

LONDON.—Repairs to 29, Grange-road, Selhurst for the Metropolitan Water Board :—

*W. J. Sidey.....	£139
Somerford & Son.....	174
Brown & Son	195
Kimber & Son	196

LONDON.—For covering the Kidderpore reservoir with a coating of 1 in. specially prepared concrete, for the Metropolitan Water Board :—
*Hughes & Muirhead..... £767

OSWESTRY.—For re-slating and lantern glazing to Powis Hall roof, for the Town Council. Mr. G. W. Lacey, Borough Engineer and Surveyor, Guildhall, Oswestry. Quantities by Borough Engineer :—

*Johnson, Son & Milner, Ltd., Oswestry	£800 1 9
Thos. Evans, Oswestry	805 0 0
W. H. Thomas & Sons, Ltd., Oswestry	830 0 0
T. S. Elder, Oswestry.....	959 11 6

SOUTH KIRKBY.—For erection of house and shop at South Kirkby, for the South Kirkby, Featherstone, and Hemsworth Collieries, Ltd. Messrs. Garside & Pennington, architects and surveyors, Ropergate, Pontefract. Quantities by architects :—

Trollope & Colls, Ltd., London	£2,691 0 0
Swift Bros. & Haslam, South Elmsall	2,342 0 0
Hudson, Block & Son, Brighouse	2,554 14 9
Jenkinson & Son, Doncaster ..	2,067 0 0
*Smith Bros., Ltd., Burnley ..	2,050 0 0

WALSALL.—For the erection of sewage disposal works at Wilderness-lane housing scheme, Great Barr, for the R.D.C. Mr. W. P. Young, Engineer, Daw End, Rushall, Walsall :—

*Thomas Hardy, West Bromwich	£800 0 0
Thomas Bradbury, Wednesbury	797 6 0
H. Pullar & Co., Manchester..	800 0 0
H. J. Holloway, Wolverhampton	919 9 9
E. E. Jeavons & Co., Ltd., Dudley Port	944 6 2
A. Blair, Lyell & Co., Ltd., Birmingham	965 0 0
G. F. Hartigan, London.....	989 0 11
Martin & Element, Ltd., Smethwick	994 9 7
J. Reynolds, Walsall.....	1,009 10 1
A. L. & H. W. Chown, Northampton	1,026 11 2
W. Thorpe, Birmingham.....	1,118 0 9
W. H. Rogers, Wolverhampton	1,141 13 5
Johnson & Langley, Leicester..	1,196 0 0
Iron work—	
*Adams Hydraulics, Ltd.....	225 0 0
Engineer's Estimate (inclusive)	1,167 0 0

WALTON-ON-THAMES.—Construction of foundations for the extension of existing engine house and boiler house, for the Metropolitan Water Board :—

*Purnell & Clifford	£23,655 12 9

WEMBLEY.—For extensions and alterations to the Sewage Disposal Works at Perivale-lane, for the U.D.C. Mr. C. R. Chapman, Surveyor, Council Offices, Wembley :—

*R. H. Powis	£27,755 8 9
Davidson & Sykes, Ltd.	54,450 6 0
J. & W. Stewart	48,600 0 0
A. L. & H. W. Chown	45,584 8 4
Thos. W. Pedrette	43,295 16 8
C. V. Buchan & Co., Ltd.	43,149 0 0
Abraham Graham & Sons	43,000 0 0
Edwards Construction Co., Ltd.	42,855 8 6
A. Hyslop & Co.	40,395 16 6
H. Pickrill	39,321 0 0
Daniel T. Jackson	38,124 11 6
A. H. Price & Co.	38,025 10 7
John J. Shardlow	37,827 17 2
Willis & Co.	£37,744 0 0
William Moss & Sons, Ltd.	36,249 0 0
Hiram Morecroft	36,027 0 0
George Wimpey & Co., Ltd.	35,950 17 4
Wm. Muirhead, Macdonald, Wilson & Co.	35,790 18 10
Unit Construction Co., Ltd.	35,499 5 8
Wilson, Lovatt & Sons, Ltd.	35,390 0 0
Trollope & Colls, Ltd.	35,338 0 0
Hardy & Co.	34,929 5 6
Perry & Co. (Bow), Ltd.	34,709 0 0
George Bell & Sons, Ltd.	34,677 0 0
Timothy Patrick	34,577 17 6
Roads & Public Works, Ltd.	34,433 17 10
C. F. Cole	34,232 5 8
Royce-Cook Construction Co., Ltd.	32,643 18 11
Parker & French	31,454 4 0

TRADE NEWS.

The British Ex-Officers' Travel Association has placed an order with the Associated Equipment Co., Ltd., of Walthamstow, for six A.E.C. limousine motor coaches.

With reference to the photograph of Aston-lane Schools, Birmingham, which appeared in our issue for October 28 in an advertisement issued by the British Reinforced Concrete Engineering Co., Ltd., we are asked to state that the name of the architect was incorrectly given, and should have read "Mr. H. T. Buckland, Architect to the Education Committee, Birmingham."

We have received from the General Electric Co., Ltd., a booklet (No. H.2612) the primary object of which is to arouse the interest of users of electric light in the possibilities and advantages of electricity for heating and cooking. A description of the "All-Electric" house is followed by a brief description of the most generally used heating and cooking appliances. Useful information on "How to calculate the cost of using electrical appliances," "How electricity can be used in the home," and hints on electric lighting complete the table of contents.

Messrs. Fredk. Braby & Co., Ltd. (Petershill-road, Glasgow) have issued a revised edition of their well-known "Handbook for Architects and Engineers." In addition to the useful tables and formulæ generally included in this class of book, a selection is given of illustrations of some extensions to their works recently carried out by the firm, including an addition to an engineering shop, 190 ft. long by 55 ft. span by 30 ft. to eaves, served by a 10-ton overhead crane, and equipped with a complete range of modern machine tools; a new bay to the heavy tank shop, 225 ft. long by 55 ft. span by 30 ft. to eaves, also with a 10-ton overhead crane; a new steel bin and furniture department, 270 ft. long by 55 ft. span by 25 ft. to eaves; an addition to the steel window and casement department, 270 ft. long by 35 ft. span by 25 ft. to eaves; and a new roof light, &c., department, 150 ft. long by 42 ft. span by 16 ft. to eaves.

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